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Managing High Growth and Innovation: The role of Business Models and Dynamic Capabilities

TESIS DOCTORAL

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PREFACE

When I was fourteen years old, I told my parents that I wanted to switch to a lower level in high school. Studying didn't interest me, and I preferred to allocate my time to football. I guess no one, myself included, would have guessed that twelve years later I would be in the last stages of my PhD trajectory. It has been a journey to never forget and it would not have been the same without the support, counsel and guidance of those around me. As such, there are various people and institutions I would like to thank for making this possible.

First of all, I would like to thank the University of Valencia (UV) and in particular the Department of Management for offering me the PhD position. I would also like to express my gratitude to the 'Hendrik Muller Fonds' and 'Prins Bernhard Cultuurfonds' scholarships for their financial support without which the PhD would not have been possible. Ultimately, I would like to thank Rotterdam School of Management (RSM), Erasmus University and in particular the Department of Strategic Management and Entrepreneurship for the opportunity to do a research visit and its hospitality.

I would also like to sincerely thank my supervisor, Dr. Àngels Dasí, who has offered me great guidance ever since we met when she supervised my master's thesis. Your guidance in channeling my enthusiasm into interesting research topics while at the same time giving me the freedom to pursue my own interests has been extremely helpful. I am truly grateful that you have always put my interests first and have always supported and even stimulated me to seek new opportunities and really get the most out of the PhD trajectory, even if that meant moving away from your research field. I am very glad that we have built a strong relationship and that you have been part of this journey. I would also like to thank my colleagues at the University of Valencia and in particular Prof. Dr. Joaquín Alegre. You were the first with whom I discussed the possibility of doing a PhD and I am grateful for your help ever since.

During my research visit at Rotterdam School of Management I have met co-authors and collaborators who have played an important role in my doctoral process. I would especially like to thank Prof. Dr. Justin Jansen and Prof. Dr. Tom Mom for the possibility to do a research visit at RSM and for the opportunity to collaborate in the research project on High-Growth Firms, it

really has enriched my PhD experience. I would also like to thank Dr. Magdalena Cholakova for her guidance, feedback and for really taking the time to teach me how to do qualitative research. Lastly, I want to thank Suzana for the pleasant collaboration and for all the hours of discussions and revisions.

My supervisor, co-authors and colleagues have been important, but so have been my friends and family. To my friends in general and especially to Luuk, Wouter, and Thijs: thank you for the coffees, drinks, lunches, dinners, conversations and laughs which always helped me to 'recharge' and get the energy needed to finish the PhD.

Last but not least, I would like to express my deepest gratitude to my family, which has been (and is) invaluably important to me. Mom and dad, thank you for your infinite support, regardless of which trajectory in life I embark on. I closely remember your words when I wanted to switch to a lower level in high school to focus on football. "If this is what you want to do, we support you. But remember one thing, don't waste your talent". For me this is illustrative for the amazing and supportive parents you are. 'Mama', I am extremely grateful for your unconditional love and support, I could write a book about all the things you have done for me and even that wouldn't express my gratitude. 'Papa', thank you for all the lessons, one-liners and lectures about life and for being an amazing friend and sparring partner. You truly are an example to me in both life and business. Daniek and Evi, I am very happy to have you as my sisters, I couldn't wish for a better family. And of course, Jess, I really mean it if I say that this PhD journey would not have been possible without you. Thank you for always believing in me and for just always being there for me when I need you. Nothing is ever too much for you and you are the true bedrock that makes this all possible.

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General Introduction

1.1 GENERAL INTRODUCTION TO THE RESEARCH TOPIC

Researchers have long been interested in understanding how firms are able adapt to ongoing internal and external change (Teece, Pisano, & Shuen, 1997; Wernerfelt, 1984). In our pursuit of contributing to this phenomenon, in this dissertation we build upon three core topics: ‘Business Models’, ‘Dynamic Capabilities’ and ‘High-Growth Firms’. With the increased environmental dynamism (Sirmon, Hitt, & Ireland, 2007), these three related research topics have gained momentum in recent years (Demir, Wennberg, & McKelvie, 2017; Massa, Tucci, & Afuah, 2017; Schilke, Hu, & Helfat, 2018). In what follows, we elucidate how these three research topics are interlinked and how we address them throughout this doctoral dissertation.

The high environmental dynamism of today’s business environment is driven by technological and digital disruptions and the disruptive growth of innovative business models (Cozzolino, Verona, & Rothaermel, 2018; Teece, 2018a). Firms that bring about business model innovation are able to grow rapidly and put a lot of pressure on incumbent firms (Kim & Min, 2015). A well-known example is Netflix, that changed its DVD delivery business model into an online streaming platform and by doing so changed the state of art in the movie rental industry (Snihur & Zott, 2019). The biggest player in the industry at the time, Blockbuster, which was operating with physical movie rental stores did not manage to adjust its business model to the changing circumstances and only a few years after the introduction of Netflix’ disruptive business model filed for bankruptcy (Ahuja & Novelli, 2016). Polaroid (Tripsas & Gavetti, 2000) and Nokia (Vuori & Huy, 2016) faced the same challenges, the two top performers in their industries lost the battle because of their inability to adapt to the change they faced. These cases exemplify two important trends in today’s business environment. On the one hand, firms that are able to design innovative business models that allow them to achieve and sustain high growth are able to quickly capture an important share of the market in which they operate (Markides, 2008). On the other hand, incumbent firms face the challenge of adjusting their business models in order to protect their competitive position in the constantly changing business environment (Saebi, Lien, & Foss, 2017).

Why some firms are able to continuously adjust to changing circumstances while others are not is a question that scholars have sought to answer for years. Over the last twenty years, the dynamic capabilities perspective has been embraced by scholars in their search to answer this question. Dynamic capabilities represent the important ability of organizations to achieve evolutionary fitness by purposefully extending and modifying their resource and capability base (Barreto, 2010; Eisenhardt & Martin, 2000; Helfat et al., 2007; Helfat & Peteraf, 2009; Helfat & Winter, 2011; Schilke et al., 2018; Teece, 2007; Teece et al., 1997).

In early studies, the focus of dynamic capabilities has been particularly on organizational processes that allow firms to alter the way they make a living (Eisenhardt & Martin, 2000; Teece et al., 1997). However, since managers are the key agents of adaptation and change, and organizational processes reflect top managers' beliefs and ideas (Zahra, Sapienza, & Davidsson, 2006), there has been increasingly argued that capabilities must be utilized properly by top management in order to be effective (Eggers & Kaplan, 2013). As the role of top managers in the guidance of dynamic capabilities has been increasingly stressed by scholars, it has developed into a subfield of dynamic managerial capabilities (DMC) (Helfat & Martin, 2015; Teece, 2018b). Dynamic managerial capabilities are the capabilities with which managers create, extend, and modify organizational resources and competencies (Adner & Helfat, 2003: 1012; Helfat & Martin, 2015).

Teece (2018b) argues that the ability of designing and implementing business model innovation is an important feature of DMC. In today's fast changing environment, he argues, it might be even the most important feature. Studies have shown that firms that innovate their business model i.e., firms that make designed, novel and nontrivial changes to the way they create and capture value, tend to outperform their competitors in almost every industry (Zott & Amit, 2007). Nevertheless, business model innovation (BMI) is a highly complex managerial task (Snihur & Zott, 2019) and although some managers have designed successful BMI in response to the changing environmental circumstances, many others have experienced strong difficulties and failed to go through the process of BMI successfully (Chesbrough & Rosenbloom, 2002; Tripsas & Gavetti, 2000). The increased number of studies on the relation between DMC and BMI indicates that top management team's DMC are of crucial importance for the successful innovation of the firm's business model (Foss & Saebi, 2017; Frankenberger & Sauer, 2019; Helfat & Martin, 2015; Martins, Rindova, & Greenbaum, 2015; Schneider & Spieth, 2013).

The current state in the dynamic capabilities literature also indicates that the development of dynamic capabilities has primarily been studied in either new ventures or more mature firms (Autio, George, & Alexy, 2011). However, it also provides an important theoretical backdrop to study how High-Growth Firms (HGFs) manage to continually adapt to the changing circumstances. HFGs, often referred to as scale-ups, are defined as organizations with at least 20% of annual growth rate in terms of revenue and/or employees over a three-year period, and with at least 10 employees in the base year (OECD, 2007). While rapidly scaling in size, the internal environments of scale-ups 'suffer' from dramatic changes in managerial scope, and continuous and fast change, which often results in the inappropriateness of practices and structures in place (Nicholls-Nixon, 2005). Moreover, rapid growth results in important challenges for (managerial) skills, organizational practices and structures, and (human) resource needs (Hambrick & Crozier, 1985; Lee, 2014). Although some studies have provided valuable insights into the challenges of HGFs, there is a sparsity of studies addressing *how* these firms manage to overcome these managerial challenges. This means that our current understanding about the foundations of and processes underlying sustained high growth has remained rather limited (Demir et al., 2017; Wright & Stigliani, 2013).

As only a small proportion of around three percent of all firms is able to overcome the challenges of high growth and thus sustains high growth over prolonged periods of time (Brüderl & Preisendörfer, 2000; Feindt, Jeffcoate, & Chappell, 2002; Lopez-Garcia & Puente, 2012), scholars have started to show interest in the strategic characteristics of such organizations (Demir et al., 2017; Jansen et al., 2020). Scalability, which broadly refers to the ability to obtain and sustain profitable growth (Picken, 2017), has been argued to be a specific characteristic of HGFs that set them apart from other growing organizations (DeSantola &

Gulati, 2017). Firms that are able to design and implement scalable business models might be able to sustain high growth over time (Zhang, Lichtenstein, & Gander, 2015). However, studies on what scalable business models are and *how* firms configure their business models to make them scalable are lacking (Jansen et al., 2020).

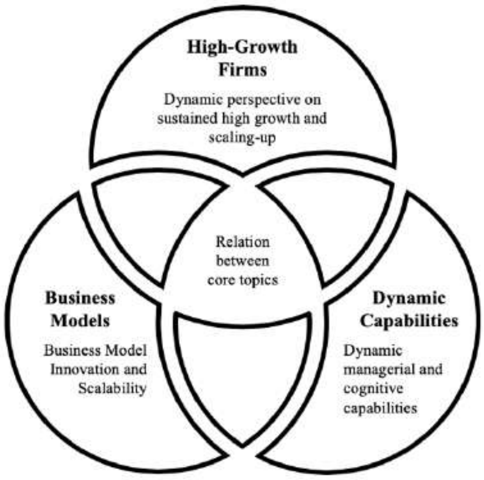
Taken collectively, studies have shown that in today's fast changing business environment firms either achieve high growth or their competitive position is challenged by competitors that do. On the one hand, firms that achieve high growth face the managerial challenge of designing scalable business models and adjusting their organizational practices to the constantly changing circumstances. On the other hand, firms that are challenged by fast growing competitors face the challenge of innovating their business model in order to protect their competitive position. Either way, firms rely on their dynamic capabilities, guided by the top management team, to address those challenges. Despite important insights, there remain significant gaps in our understanding of *how* firms do this.

First, we know that incumbent firms rely on the dynamic managerial capabilities of their top management team in the process of business model innovation (Frankenberger & Sauer, 2019; Teece, 2018b). However, there remains an important gap in our understanding of how the DMC of individual top managers are brought together within a team in this business model innovation process (Brettel, Flatten, Bendig, da Costa, & Strese, 2018; Salvato & Vassolo, 2018). This is an important blind spot because understanding how firms sense and seize opportunities requires the examination of the interpersonal mechanisms that allow top management teams to combine the individual DMC within the team (Eggers & Kaplan, 2013; Salvato & Vassolo, 2018).

Second, research has shown that, even though only a small proportion of firms manages to do it, achieving and sustaining high growth is possible. Yet, current literature tells us little about how HGFs deal with the challenges of constant adaptation to the changing circumstances that come with fast growth (Demir et al., 2017; Wright & Stigliani, 2013). This is a crucial omission because a thorough understanding of HGFs requires the examination of the dynamic patterns by which rapid growth evolves and the specific capabilities required to adapt to internal and external contingencies over time (Helfat & Peteraf, 2003; Simsek, 2009).

Third, scholars have argued that designing scalable business models is what sets high-growth firms apart from other organizations (DeSantola & Gulati, 2017; Zhang et al., 2015). However, existing literature fails to explain how HGFs design their value creating and capturing activities to facilitate and manage high growth over time (Mom, 2019; Simsek, Heavey, & Fox, 2017). This is an important gap in our understanding because a thorough understanding of both business model scalability and HGFs requires an in-depth understanding of the key characteristics of scalable business models (Jansen et al., 2020). As such, there is a clear need for insights about how HGFs configure their business model elements in order to ensure long term scalability. Figure 1.1 visualizes the relation between the three topics of this dissertation.

Figure 1.1 Visualization of relation between research topics of the dissertation



In sum, whereas current literature has provided important insights into the phenomena, this dissertation builds on the notion that there is still much left to learn about *how* organizations deal with both internal and external changes when growing fast and *how* organizations protect themselves from their fast-growing competitors.

1.2 RESEARCH OBJECTIVES

In order the strengthen and develop our understanding of how organizations deal with these challenges, in this dissertation we set out to conduct three empirical studies (chapters 3, 4 and 5). Each study addresses one of the of blind spots identified in the literature. Based on the identified opportunities for further research, three research questions have been developed that together attempt to improve our understanding of the phenomena under study:

1) *How* do top management's dynamic managerial capabilities combine in the process of business model innovation?
2) What are the managerial and organizational capabilities that enable sustained high growth and *how* are they created and enacted over time?
3) *How* do high-growth firms design scalable business models that enable them to create and capture value over prolonged periods of high growth?

Each question aims to solve a different part of the puzzle we try to contribute to throughout this dissertation and therefore each study has different objectives. The objective of the first study is twofold. First and most importantly, we aim to extend prior research on dynamic managerial capabilities by unraveling the interpersonal mechanisms that allow top managers to combine the dynamic managerial capabilities of individual top managers within the top management team (Brettel et al., 2018; Salvato & Vassolo, 2018). A second objective of the first study is to bridge the gap between dynamic managerial sensing and seizing capabilities, an important link for the successful deployment of dynamic capabilities on which prior research has remained silent (Roberts & Grover, 2012; Schilke et al., 2018).

The main objective of the second study is to move beyond the rather static insights about initiation and achievement of high growth (Barbero, Casillas, & Feldman, 2011; Chan, Bhargava, & Street, 2006; Stam & Wennberg, 2009) and illustrate how high-growth firms dynamically sustain their scaling over prolonged periods of time. To accomplish this, two concrete objectives have been formulated. First, we aim to identify the dynamic capabilities that allow HGFs to sustain fast growth over time and to illustrate how these capabilities contribute to overcoming the challenges of fast growth. The second objective is to illuminate how HGFs enhance and develop their dynamic capabilities over time (Ford & Friesl, 2019; Montealegre, 2002).

The third study has a similar main purpose as study two: providing a more dynamic perspective on high growth through the lens of Business Models. To do this, we aim to identify the key characteristics of scalable business model designs. By zooming in to the core elements of HGFs' business models, our aim is to provide a more dynamic perspective on and deeper understanding of how specific characteristics of the business model elements facilitate scalability over time (Zhang et al., 2015; Zott & Amit, 2010).

All in all, the general objective of this dissertation is to extend our understanding of how, on the one hand, firms are able to deal with the challenges of sustaining high growth, and on the other hand, can protect themselves from their fast-growing competitors.

1.3 RESEARCH METHODS

Given the limited theory and evidence about the phenomena under study, we utilize a qualitative research approach in our attempt to answer the research questions. More specifically, we use theory-building case study research designs in the three empirical studies (Corley & Gioia, 2004; Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Gioia, Corley, & Hamilton, 2012; Yin, 1984). Case studies are particularly suited to answer the 'how' research questions that we set out to study in this dissertation (Lee, 1999; Yin, 2014). Moreover, case studies are useful to develop theory on how complex organizational processes unfold over time (Langley, 1999).

1.3.1 Research Methods Study 1

To answer the question of how the dynamic managerial capabilities of individual top managers combine within the team, in the first study we adopted an inductive theory-building single case study design that allowed us to capture the longitudinal, processual nature of this process (Langley, 1999; Yin, 2014). We conducted our study in the biggest independent fashion retailer in the Netherlands, which we refer to as *Clothing*, as we believe it to be a revelatory and exemplary context that enables us to gain insights that might not be possible in more typical cases (Eisenhardt & Graebner, 2007; Sigglekow, 2007). We specifically focused the analysis on the process in which *Clothing* innovated its business model by adding an online business model to its physical offline business model.

Our main source of data came from private interviews with the top management team members of *Clothing* which were conducted in three formal round of data collection. In total we conducted nine interviews with the top management team members of *Clothing* and triangulated our findings by analyzing 246 documents of archival data. Following the 'Gioia method' (Corley & Gioia, 2004; Langley & Abdallah, 2011), we first open-coded the interviews to develop first order codes. Then, by relying on the constant comparison method (Strauss & Corbin, 1998), we grouped first order codes into second-order themes to bring the data to a more conceptual level. After that, we grouped the second-order themes into aggregate dimensions and created a data structure (Gioia et al., 2012). Finally, we developed an empirically grounded process model of how dynamic managerial capabilities combine in the process of business model innovation.

1.3.2 Research Methods Study 2

To answer the second research question: what are the managerial and organizational capabilities that enable sustained high growth and *how* are they created and enacted over time?, we also adopted a single case study approach (Gehman et al., 2018). The selected case in this study was Takeaway, one of the biggest food order and delivery platforms worldwide and the fastest growing organization in the Netherlands. We have specifically chosen to focus on Takeaway as a single case for our study as it represents a prototypical exemplar of a highly successful scale-up company (Eisenhardt & Graebner, 2007; Sigglekow, 2007).

Data was collected over a 30-month period from 2017 to 2019. In total we conducted 30 interviews with the founder/CEO, board members and senior managers[1]. We triangulated our findings by analyzing 1,822 pages of archival documents. Similar to the approach in study 1, we built upon the 'Gioia method' to analyze our data. We followed good practice of qualitative data analysis (Corbin & Strauss, 2014; Miles & Huberman, 1994) and developed a data structure by grouping first-order codes into second-order themes and combining them in aggregate dimension. Finally, we developed a grounded process model that illustrates how Takeaway was able to achieve and sustain high growth over an extended period of time.

1.3.3 Research Methods Study 3

While the first two studies of this doctoral dissertation build upon a single case study approach, the third and final paper draws upon a multiple-case study research design (Eisenhardt &

[1] The data that has been used in empirical studies two and three, which are presented in chapters four and five respectively, has been collected in collaboration with a group of researchers from the Department of Strategic Management and Entrepreneurship of Rotterdam School of Management (RSM), Erasmus University.

Graebner, 2007). To answer the question how high-growth firms design their business models to ensure business model scalability over time, we opted for a multiple-case method because it allowed us to follow the replication logic and test emerging insights within each additional case (Eisenhardt, 1989; Yin, 2014). We selected three of the most successful high-growth firms in the Netherlands with a proven record of scaling-up as we believed these firms would provide valuable insights into the characteristics of scalable business model designs.

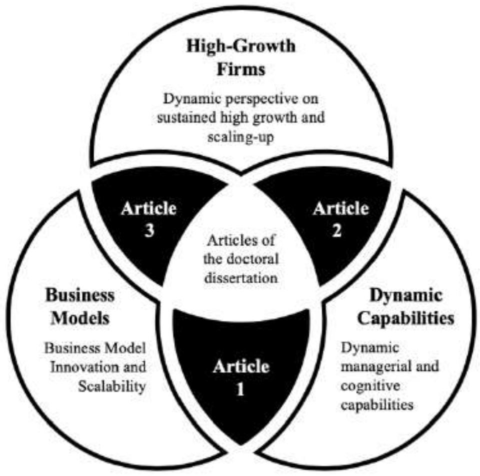
The main data source were in-depth interviews with founders, CEOs, board members, and senior managers. A total of 33 interviews were conducted and 1,574 pages of archival material were analyzed to triangulate findings. We went through an iterative process of data analysis and recursively cycled among the case data, emerging theory and extant literature to refine our theoretical insights (Eisenhardt & Graebner, 2007; Miles & Huberman, 1994). By reflecting emerging insights to the existing business model literature, we were able to group the empirical codes into theory-based themes related to the key elements of the business model (Mantere & Ketokivi, 2013).

1.4 DISSERTATION OVERVIEW

The structure of this dissertation can be divided into three parts. First, chapters 1 and 2 provide a general theoretical overview. The introduction of chapter 1 contains the motivation of the research topic, the major research questions and objectives, and an outline of the theories that are used throughout the dissertation. Chapter 2 provides a theoretical introduction of the concepts that will be studied in the three empirical studies. The key theoretical lenses that will be addressed are ‘Dynamic Capabilities’ and ‘Business Models’. These concepts provide the theoretical basis for the three empirical studies. The phenomenon ‘High-Growth Firms’ shall also be introduced in chapter 2 as it plays an important role in studies two and three. Rather than providing a comprehensive literature review, we provide an introduction of the state-of-art of the literature on HGFs and position the empirical studies in this literature.

The second part consists of the three empirical studies conducted with the aim to answer the research questions we set out to study in this dissertation. Every chapter will have its own introduction, theoretical framework, results, and discussion and will hence represent an independent research paper. Chapter 3 presents the first study, which is called "Without friction, no shine: How top management's Dynamic Managerial Capabilities combine in the process of Business Model Innovation". Study two, called "Reinforcing complementarities for Sustained High Growth" is presented in chapter 4. The final chapter of the second part, chapter 5, presents the last empirical study which is called "Designing Scalable Business Models: Lessons from Netherlands' most successful Scale-ups". Figure 1.2 visualizes the outline of the doctoral dissertation and shows how the three core concepts are brought together in the three empirical studies.

Figure 1.2 Outline of the doctoral dissertation



In the final part of the dissertation, chapter 6, we present the general conclusions and contributions of the three empirical studies. In this part, the contributions to the three core streams of literature of this dissertation and the managerial implications are summarized.

Chapter 2:

General Theoretical Framework

2.1 INTRODUCTION

This doctoral dissertation builds upon three core subjects, the theoretical perspectives 'Business Models' and 'Dynamic Capabilities', and the phenomenon 'High-Growth Firms'. The aim of this chapter is not to provide a comprehensive literature review of everything that has been studied in the field. Rather, it is to provide a theoretical introduction of the three core subjects that will be addressed throughout the three empirical studies of this doctoral dissertation.

2.2 BUSINESS MODEL INNOVATION

The Business Model (BM) literature traces its origin back to 1954 where Peter Drucker introduced the concept in his book, The Practice of Management (Drucker, 1954). According to Drucker (1954) a good business model answers two main questions: 'Who is the customer and what does the customer value?'. In 1960, the first academic article using 'business model' in its title was published (Jones, 1960). However, The BM concept became the focus of a substantial number of studies since the mid-1990s. Scholars surmise that the emergence of the business model concept may has been driven by the advent of the internet (Zott, Amit, & Massa, 2011). The first studies on BMs were mostly practitioner-oriented and have been published in non-academic journals. Therefore, research published in academic journals long lagged behind practice (Zott et al., 2011). Nevertheless, since 2005 the number of publications in academic journals is increasing significantly. Foss and Saebi (2017) indicate that BM research is attracting very significant attention, not just in practitioner-oriented studies, but also increasingly from various research communities.

Despite these developments, the business model concept is still being referred to in many different ways and scholars still debate about what the business model actually "is" (Massa et al., 2017). Wirtz, Pistoia, Ullrich, and Göttel (2016: 37) argue that “there is still no complete clarity in the literature, in particular about the purpose or the right of the business model approach to exist, or even the contrast to established concepts”. The lack of agreement makes the business model a slippery construct to study (Casadesus-Masanell & Zhu, 2013). However, such a strong increase of research on a topic is likely to happen when the phenomenon is broadly seen as highly important, ill-understood, but the problem of understanding is not so badly defined or ill-structured that inquiry seems near hopeless (Foss & Saebi, 2017). Hence, the business model is an important phenomenon that is still in need of cumulative research to overcome this lack of clarity and conceptual agreement (e.g. Foss & Saebi, 2017b; Massa et al., 2017; Zott et al., 2011).

2.2.1 Business model perspectives

Terminology has not kept pace with the ways business models are described, allowing the business model literature to branch into different research streams (Massa et al., 2017) and to develop various perspectives (Ritter & Lettl, 2017). Massa and colleagues (2017) divide the interpretations of the business model into three major streams: (1) Business models as attributes of real firms i.e., how firms do business, (2) business models as cognitive/linguistic schema i.e., how the way firms do business is interpreted by organizational members, and (3) business models as formal conceptual representations/descriptions of how on organization functions i.e., how streams (1) and (2) could be represented in a formal conceptualization (e.g. symbolic, mathematical, or graphical).

2.2.1.1 The business model activity perspective

The research stream business models as attributes of real firms describes how a firm does business by explaining the value creation and capture logic (Magretta, 2002; Ritter & Lettl, 2017; Zott & Amit, 2010). Archetypes such as the ‘razor-and-blade’ (Casadesus-Masanell & Zhu, 2013; Tripsas & Gavetti, 2000) and the ‘freemium’ (Cosenz & Noto, 2018; Rietveld, 2018) business model have been used to describe the generic logic of how firms do business. Archetypes describe the business model in the most general sense but do not address the underlying logic of how a firm creates and captures value. The underlying logic of value creation and capture is explained by the activity perspective of the business model (Ritter & Lettl, 2017). Zott and Amit (2010: 217) referred to the business model as "a set of interdependent organizational activities centered on a focal firm, including those conducted by the focal firm, its partners, vendors or customers, etc.". In later work, Snihur and Zott (2019: 5), defined the business model as "a boundary-spanning activity system that centers on a focal firm, yet may encompass activities performed by its partners, suppliers, and customers in the pursuit of value creation and capture".

Following this perspective, the business model consists of three core elements: content, governance and structure (Amit & Zott, 2001; Saebi & Foss, 2015; Zott & Amit, 2010). Content refers to the selection of value creating and capturing activities that are performed within the boundary-spanning system. Governance refers to who performs the activities and addresses issues of control, and who is in charge of the activities (Snihur & Zott, 2019). Structure refers to how the activities are linked and sequenced. Teece (2010) refers to structure as the business model architecture. The architectural perspective points out that the business model is not a mere list of activities for creating and capturing value. Rather, the architecture specifies the interdependencies and relations among the various activities and mechanisms in the system (Foss & Saebi, 2017). The content, governance and structure of the activity perspective together explain *how* a firm creates and captures value.

Four design themes, which have been theoretically proposed and empirically tested, explain the sources of value creation within the activity perspective (Amit & Zott, 2001; Hock, Clauss, & Schulz, 2016; Zott & Amit, 2010). Summarized in the NICE framework, Zott and Amit (2010) proposed *N*ovelty, Lock-*I*n, *C*omplementarities and *E*fficiency as business model design themes, representing sources of value creation. *Novelty* refers to the adoption of new activities (content), changes in the governances by (re)appointing who is in charge of the activities (governance), and/or (re)designing novel linkages between the activities (structure). Novelty can be introduced by the firm into one or more elements of the business model separately or combined in a coordinated way. *Lock-In* is the degree to which customers are motivated to repeat transactions and can be increased by, for instance, increasing switching costs and loyalty programs (Amit & Zott, 2001). *Complementarities* are present when a combination of goods, services, or activities provides more value than the total value of having them separately (Amit & Zott, 2001). In the business model, complementarities are present whenever bundling activities provide more value than running activities separately (Zott & Amit, 2010), and explain the uniqueness and rigidity of the business model (Foss & Saebi, 2018). *Efficiency* refers to reducing transaction costs (Williamson, 1979). This can be realized by, for instance, reducing information asymmetries between stakeholders such as buyers and sellers, reducing search costs, and reducing the possibility of opportunistic behavior by one of the stakeholders (Amit & Zott, 2001). Table 2.1 presents the main dimensions and themes according to activity system design framework.

Table 2.1 Business model as an activity system design framework

Design Elements	
Content	**What** activities are performed?
Structure	**How** should the activities be linked and sequenced?
Governance	**Who** performs the activities and **where** are they performed?
Design Themes	
Novelty	Adopt innovative content, structure and/or governance
Lock-In	Build in elements to retain business model stakeholders, e.g. customers
Complementarities	Bundle actitivities to generate more value
Efficiency	Reorganise activities to reduce transaction costs

Source: Zott & Amit (2010: 222)

2.2.1.2 Business Models as cognitive schemes

The second stream of research describes how organizational members interpret the way firms do business. Authors following this approach argue that managers do not hold real systems in mind while making decisions. Rather, their decisions are influenced by their own cognitive schemes (Massa et al., 2017). In this line, Teece (2010: 191) argues that “a business model reflects management’s hypothesis about what customers want, how they want it and what they will pay, and how an enterprise can organize to best meet customer needs, and get paid well for doing so”. This stream of research (business models as cognitive/linguistic schema) emphasizes the role of the top management team and more specifically top managers’ managerial cognition (e.g. Hambrick & Mason, 1984; Johnson & Hoopes, 2003). Hence, it describes *why* the business model is designed in a certain way.

Prior studies have addressed the impact of cognition on business models (Frankenberger & Sauer, 2019; George & Bock, 2011; Martins et al., 2015; Osiyevskyy & Dewald, 2015). Morris, Schindehutte and Allen (2005) in their study find that business model choices are directly influenced by the cognitive capabilities and skills of management team members to interpret the needs for their organizations. Osiyevskyy and Dewald (2015) show that management's perceptions directly influence the choice for exploitative or explorative business model innovation. In a similar vein, Frankenberger and Sauer (2019) find that TMT's attention patterns explain their BM design choices. The aforementioned studies all prove empirically that managerial cognition affects business model design choices.

As Täuscher and Abdelkafi (2017) put it, the business model is like a painting. Paintings are an objective reality that represent the painter's ideas and is interpreted by the viewer. In this view, managers use their knowledge and cognitive skills to make business model design choices. Their cognitive base is projected on the business model design and therefore, the business model reflects management's cognition. However, although the business model (just like a painting) can be interpreted in various ways, the combination of activities is objectively presentable in the business model (just like the colors and size of a painting). Hence, in line with what prior studies have shown, we argue that management's cognitive schemes are reflected in business model designs. However, the business model design itself is also objectively observable. We agree with Foss and Saebi (2017) and Spieth and colleagues (2014) that the link between managerial cognition and the business model is an interesting avenue for future research in which much work is still to be done.

2.2.1.3 Business models as formal conceptual representations

The third stream of research refers to the business model in a simplified and explicit, written down in pictorial, mathematical, or symbolic form (Massa et al., 2017). This stream of research, by Ritter and Lettl (2017) referred to as the business model elements perspective, proposes structuring business models on the basis of essential elements in order to capture the important parts of a business (Ritter & Lettl, 2017). The use of such a conceptual representation of the business model is useful for managers and scholars in trying to make sense of the complexity of the concept (Massa et al., 2017). This stream of research thus focuses on *what* the most important elements (or components) of the business models are. Hence, the 'what' question does not focus on the microfoundations of the business model, but it is a simplified representation that allows managers to make sense out of the complex phenomenon. Since authors in the activity perspective and authors following the perspective of business models as formal conceptual representations use the term "elements" to refer to different things, we will henceforward use the term "components" in this stream of research to ensure terminological clarity.

Studies adopting this perspective have suggested a variety of components that should be included to form a complete understanding of the business model. Johnson, Christensen, and Kagermann (2008) propose four key components of the business model: value proposition, profit formula, key resources, and key processes. Osterwalder and Pigneur (2010) in their famous business model canvas, use nine components. Despite the variety of suggestions, the majority of studies seems to converge on the similar core components of the business model which are; *value creation*, *value delivery*, *value capture*, and the *value proposition* (Saebi & Foss, 2015; Teece, 2010; Wirtz et al., 2016; Zott et al., 2011). Some studies use other terminology and add components such as market segment, profit formula, and value chain structure as main components of the business model (Johnson, Christensen, & Kagermann, 2008; Osterwalder & Pigneur, 2010; Saebi, Lien, & Foss, 2017). We agree that those components are very important and parts of the business model. However, we believe them to be part of the inclusive key components stated above (see also Rayna & Striukova, 2016; Teece & Linden, 2017). Following the stream of research 'business models as formal conceptual representations', *value creation* derives from organizing activities in such a way that customers perceive higher value related to their needs and are willing to pay for the services or products. Value creation in the BM derives from core competencies, key resources, governance, complementary assets, and so on (Rayna & Striukova, 2016). *Value delivery* describes how the created value is delivered to customers and target market segments through different distribution channels (Osterwalder, Pigneur, & Tucci, 2005; Rayna & Striukova, 2016). The created value has to be monetized by the focal firm. *Value capture* refers to the value exchange or appropriation. In other words, the objective of the BM is to benefit from the value created by generating a profit for the focal firm and its partners (Zott & Amit, 2010). The revenue capture mechanisms such as the revenue model to generate cash flow and the cost structure as well as the profit formula are part of the value capture component (Guo, Zhao, & Tang, 2013). Finally, *value proposition* refers to the reason why customers turn to one firm over another. A good value proposition creates value for customers and partners through a bundle of products and/or services that benefits customers and partners (Osterwalder & Pigneur, 2010). Thus, value has to be created, with the help of the value proposition, and captured with the help of the value delivering mechanisms. Table 2.2 provides an overview of the relations between the research streams and perspectives of the business model.

Table 2.2 Relation between research streams and perspectives of the BM

Research stream	Business model perspective	Key components	Studies adopting the research streams and perspectives
Business model as attributes of real firms – *"How it is being done"*	Business model archetypes		Rietveld (2018); Amit & Zott (2012); Casadesus-Masanell & Ricart (2010);
	Business model activities		Amit & Zott (2001); Zott & Amit (2010); DaSilva & Trkman (2014);
	Business model alignment/architecture		Teece (2010); Zott & Amit (2010); Foss & Saebi (2017); Teece (2017);
	Business model logics		Casadesus-Masanell & Ricart (2011); Snihur & Tarzijan (2018)
Business models as conceptual representations – *"What is being done"*	Business model elements (or components)	- Value creation - Value capture - Value delivery - Value proposition	Saebi & Foss (2015); Johnson et al (2008); Wirtz et al (2016); Osterwalder & Pigneur (2010); Zott et al (2011); Cosenz & Noto (2017);

Source: Own elaboration based on Massa et al (2017) and Ritter & Lettl (2017)

2.2.1.4 Converging the business model streams and perspectives

Dating back to when Peter Drucker (1954) first used the term in his book, the main purpose of the business model is to describe how a firm does business (Massa et al., 2017; Zott et al., 2011). The underlying logic to do so are the firm's activities, stressed in the activity perspective. The business model elements perspective offers a conceptual representation by grouping the underlying activities of the business model into certain components and helps scholars and managers to make sense of the complex phenomenon. The analogy we used about paintings describes why managerial cognition plays an important role in business model design decisions. Yet, we believe this stream of research fails to explain the underlying logic of the firm's business model. Hence, we argue the research stream 'business models as attributes of real firms', reflected in the business model activity perspective to be the most promising future research line as it addresses the underlying logic of how a firm does business. Combining it with the 'business models as formal conceptual representations' stream of research can be a valuable way for researchers and practitioners alike to create more clarity within the complex phenomenon (see Table 2.3 for a visual representation).

Table 2.3 Combining the Business Model research streams and perspectives

What?	**Value proposition** The bundle of products and/or services that benefits customers and partners		
	Value creation Organizing activities in such a way that customers perceive higher value related to their needs and are willing to pay for the services or products.	**Value delivery** How the created value is delivered to customers and target market segments through different distribution channels.	**Value capture** How the created value is monetized by the focal firm in order to appropriate value for the focal firm and its partners.
How?	Organizing the *content, structure and governance* of value creating activities within the boundary spanning activity system	Organizing the *content, structure and governance* of value delivery activities within the boundary spanning activity system	Organizing the *content, structure and governance* of value capturing activities within the boundary spanning activity system

Source: Own elaboration

2.2.2 Business model innovation

While the business model has attracted significant attention of academics since the mid-1990's, practitioner and scholarly interest in Business Model Innovation (BMI) has only started recently (Foss & Saebi, 2017). Prior research argued that the business model was the means through which organizations could commercialize innovative ideas and technologies (Chesbrough & Rosenbloom, 2002; Zott et al., 2011). Those studies emphasized the role of the BM in realizing the full potential of product and process innovations (Björkdahl, 2009). In this vein, business model innovation is the means to an end, namely, leveraging the full potential of other types of innovation such as product or service innovation. Chesbrough and Rosenbloom (2002) in their study show that Xerox Corporation's technology spin-offs became successful through evolving the business model and changing it significantly from that of Xerox. The business model had to be adapted in order to leverage the full potential of early stage technology (Chesbrough & Rosenbloom, 2002). More recently, the business model itself has become the subject of innovation (Schneider & Spieth, 2013). Although the notion that the business model itself can be innovated dates back to at least Mitchell and Coles (2003), only recently have scholars started to emphasize this (Foss & Saebi, 2017; Schneider & Spieth, 2013; Zott et al., 2011).

Due to the relatively recent emphasis on the business model as a subject of innovation, it exhibits the characteristics of an emerging research stream, lacking conceptual clarity (Casadesus-Masanell & Zhu, 2013). Mitchell and Coles (2004: 17) provided one of the first definitions of BMI: "By business model innovation, we mean business model replacements that provide product or service offerings to customers and end users that were not previously available. We also refer to the process of developing these novel replacements as business model innovation". More recently, authors have defined business model innovation as redefining content, structure, and governance of the activity system (Amit & Zott, 2012), and "the search for new logics of the firm and new ways to create and capture value for its stakeholders" (Casadesus-Masanell & Zhu, 2013: 464). Since there are different conceptualizations for the business model construct, it is no surprise that BMI has been defined in various ways. Nevertheless, Foss and Saebi (2017b: 216) in their literature review on business model innovation combine these insights and define business model innovation as "designed, novel, and nontrivial changes to the key elements of a firm's BM and/or the architecture linking these elements".

Disentangling the definition, BMI consists of two important parts. First, it entails designed, novel and nontrivial changes. 'Designed changes' indicates that BMI requires top management attention in order to mindfully design business model reconfigurations (Foss & Saebi, 2017). 'Novel changes' refers to the adoption of new activities into the key elements of the business model (Zott & Amit, 2010). These activities can either be new to the focal firm, or new to the industry (see following part for further elaboration of novelty in BMI). The requirement of nontriviality excludes minor changes in, for instance, supplier relations or product portfolios from business model innovation (Foss & Saebi, 2017). Second, BMI refers to changes to the "key elements and/or the architecture linking the elements". From a business model as elements perspective, this refers to changes to one or more of the business model components (the value proposition, creation, delivery and capture components) or the architecture linking the components. From an activity system perspective, this refers to changes into the content and governance (elements) and/or changes in the structure (architecture) of the boundary spanning activity system (Amit & Zott, 2012; Snihur & Zott, 2019). As the activity perspective constitutes the microfoundations of the business model, we argue business model innovation to be "designed, novel, and nontrivial changes to the content, governance and/or structure of the boundary-spanning activity system to create and capture value"

Prior studies have not yet reached conceptual agreement on how much the business model needs to change to classify as business model innovation (Spieth & Schneider, 2016). Authors do not agree on the number of elements (scope) and the degree of newness (novelty) of change is needed to qualify as BMI (Foss & Saebi, 2017). Related to scope, some authors argue that the change of one single component of the BM is enough to qualify as business model innovation (e.g. Amit & Zott, 2012; Santos, Spector, & Van Der Heyden, 2009). Others argue that more than one component has to be changed to qualify as BMI, and still others suggest that an entirely new combination of the BM components and the architecture linking them is needed (e.g. Velamuri, Bansemir, Neyer, & Möslein, 2013). Regarding novelty, some authors suggest that the change of the business model has to be new to the industry to qualify as business model innovation (e.g. Santos et al., 2009). Others argue that it can be defined as business model innovation when the innovation is new to the organization changing its business model, but not necessarily to the industry (e.g. Osterwalder et al., 2005). Foss and Saebi (2017) make a valuable contribution in providing conceptual clarity of the business model by dividing business model innovation into four business model typologies (see Table 2.4).

Table 2.4 Business Model Innovation typologies

Novelty	Scope		
		Modular	**Architectural**
	New to firm	Evolutionary BMI	Adaptive BMI
	New to industry	Focused BMI	Complex BMI

Source: Foss & Saebi (2017b: 217)

Evolutionary BMI refers to the innovation of one or more elements of the business model without changing the architecture linking them, which is new to the firm. These changes often occur naturally over time and constitute the fine-tuning of the BM with voluntary and emergent changes (Demil & Lecocq, 2010). This can occur when the complementarities among different activities are not considered strong (Foss & Saebi, 2017). *Adaptive BMI* involves architectural changes in the BM that are new to the focal firm. This often occurs when firms proactively respond to changes in the external environment (Teece, 2010). Focused BMI and Complex BMI are ‘new to industry’ changes. Both can be defined as processes by which management actively engages in changes in the BMI to disrupt market conditions. *Focused BMI* occurs when the firm innovates within one component of the BM, such as targeting a new market segment. *Complex BMI* can be seen as the most complex and disruptive type of BMI in which the firm introduces a novel architecture of activities that is new to the industry.

Linking the BMI typologies to the activity perspective, the four BMI typologies can be seen as follows: Evolutionary BMI (changes to the content and/or governance, new to the firm), Focused BMI (changes to the content and/or governance, new to the industry), Adaptive BMI (changes to the structure, new to the firm) and Complex BMI (changes to the structure, new to the industry) (see Table 2.5).

Table 2.5 BMI typologies related to the activity perspective

Novelty		Scope	
		Modular	**Architectural**
	New to firm	**Evolutionary BMI** Changes to the ***content*** and/or ***governance*** of activities that are new to the firm	**Adaptive BMI** Changes to the ***structure*** of activities that are new to the firm
	New to industry	**Focused BMI** Changes to the ***content*** and/or ***governance*** of activities that are new to the industry	**Complex BMI** Changes to the ***structure*** of activities that are new to the industry

Source: Own elaboration based on Foss & Saebi (2017b: 217)

2.3 DYNAMIC CAPABILITIES

Dynamic capabilities represent the important ability of organizations to achieve evolutionary fitness by purposefully extending and modifying their resource and capability base (Barreto, 2010; Eisenhardt & Martin, 2000; Helfat et al., 2007; Helfat & Peteraf, 2009; Helfat & Winter, 2011; Schilke et al., 2018; Teece, 2007; Teece et al., 1997). Teece et al. (1997: 516) defined dynamic capabilities as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments”. The term ‘dynamic’ thus refers to the capacity of firms to adapt the firm’s capabilities base to the changing business environment. The term ‘capabilities’ emphasizes the key role of strategic management in adapting, integrating, and reconfiguring organizational capabilities to match the requirements of the changing environment (Helfat et al., 2007).

In the original work, Teece and colleagues (1997) argue that the essence of a firm’s dynamic capabilities lies in the firm’s processes that are shaped by the firm’s positions and its evolutionary paths. Firms specific assets such as specialized plants, reputational assets and knowledge assets determine the firm’s position and hence the firm’s options for future choices (Danneels, 2002). This position on its turn, is a function of the path the organization has traveled and also determines the paths ahead. This means that the firm is path dependent (Danneels, 2002). Therefore, what a firm can do and where it can go depends on what the firm has done and where it has been (Teece et al., 1997). Thus, according to Teece (1997), the dynamic capabilities of organizations rest fundamentally on the organizational processes that are shaped by their positions and paths.

Eisenhardt and Martin (2000: 1107) define dynamic capabilities, in line with Teece et al. (1997) as “the firm’s processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die”.

Despite the similarities in the definition, Eisenhardt and Martin (2000) take a different stand, one between the traditional Resource Based View (RBV) (Barney, 1991) and Teece’s dynamic capabilities approach and explicitly call dynamic capabilities an extension of the RBV (Eisenhardt & Martin, 2000). According to Eisenhardt and Martin (2000) the strategic value of dynamic capabilities lies in their ability to manipulate resources, not in the capabilities themselves. With the effective use of dynamic capabilities, resources can be manipulated into new value-creating strategies. Dynamic capabilities thus are necessary, but not sufficient for long-term competitive advantage.

Prior to this seminal paper, dynamic capabilities have been described in a vague tautological way. Eisenhardt and Martin (2000) however, argue that dynamic capabilities consist of identifiable and specific routines such as product development routines and strategic decision-making. In order to be a source of competitive advantage, dynamic capabilities, just like the RBV suggests, have to be valuable, rare, inimitable, and non-substitutable (VRIN). Besides, the effectiveness with which the dynamic capabilities are executed determine their value. As with all organizational processes, there are more or less effective ways of executing dynamic capabilities, also called ‘best practice’. For instance, product development capability is an important dynamic capability that more firms within a certain industry may possess. The effectiveness with which firms execute this dynamic capability and how they are capable of configuring their resource base with their use, determines the strategic value of the dynamic capability for the firm (Eisenhardt & Martin, 2000).

Since the two important seminal papers, there have been formulated a number of definitions by well-known authors that build on a combination of both perspectives. Despite the difference in definitions, consensus lies in the following principles; dynamic capabilities are organizational processes in the most general sense and their role is to change the firm's resource base, dynamic capabilities are built rather than bought, they are path dependent and embedded in the organization (Ambrosini & Bowman, 2009). While dynamic capabilities are embedded in organizational processes, they reflect top managers' ideas as top managers are the key agents of change (Zahra et al., 2006). This means that organization's principal decision-makers have a strong effect on firm's dynamic capabilities.

2.3.1 Procedural levels of dynamic capabilities

Teece (2007) makes an important contribution to the dynamic capabilities literature by disaggregating them into three, in his terms, classes of sensing, seizing, and transforming. According to this typology, dynamic capabilities are reflected in the capacity to sense and shape opportunities and threats, seize opportunities, and maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the enterprise's intangible and tangible assets (Schilke et al., 2018; Teece, 2007). The three classes represent a procedural distinction between the organizational processes that are aimed at understanding the environment (sensing), making strategic choices to address environmental opportunities and threats (seizing), and reconfiguring the firm's structure, resources and capabilities accordingly (Schilke et al., 2018). The continuous alignment of organizational process within and between the three levels is of critical importance (Roberts & Grover, 2012). Sensing, seizing, and transforming are not dynamic capabilities itself but rather an overarching level that helps to link organizational processes to their strategic goals. Future research is needed to make these processes concrete and to enhance our understanding of them (Harris, Collins, & Hevner, 2009; Schilke et al., 2018). While Teece (2007) originally referred to sensing, seizing and transforming as classes, we argue that they are different stages in a process. For instance, in order for a firm to address opportunities (seize), a firm first needs to identify (sense) these opportunities. Because of this procedural distinction, we will henceforward refer to sensing, seizing and transforming as the three procedural levels of dynamic capabilities.

Sensing capabilities refer to capacity to identify and shape opportunities for the organization (Teece, 2007). Firms can sense opportunities by interpreting environmental stimuli and opportunities can be created through internal processes (Eisenhardt & Martin, 2000; Helfat et al., 2007). For instance, firms' strong product development processes can lead to ideas of new product innovations. Organizational processes to identify target market segments, processes to direct R&D, organizational agility, processes to tap developments in exogenous technology, and so on, are of strong support for the organization in analyzing and identifying opportunities (e.g. Roberts & Grover, 2012). Therefore, organizational processes are considered important microfoundations of organizational sensing capabilities (Teece, 2007). Nevertheless, individual and team level cognitive and creative capacities are also important underpinnings of dynamic sensing capabilities. Managers have to accumulate and then filter information from a variety of sources in order to create a hypothesis about what the opportunity consist of. Hence, mental activities and information processing are very important in recognizing opportunities at the management level (Adner & Helfat, 2003). Individual and team level capacities to sense, filter and shape opportunities are thus important sensing capabilities as well (Helfat & Martin, 2015; Teece et al., 1997).

Following the procedural levels, the ability to address the identified opportunities relies in the dynamic *seizing* capabilities of organizations (Teece, 2007). Seizing capabilities entail strategic choices about when, where, and how much to invest (Helfat & Peteraf, 2009). A way of seizing the identified and shaped opportunities is designing the business model in such a way that it allows the firm to capitalize on the identified opportunities (Teece, 2018b). While further research should identify more concrete dynamic seizing capabilities, business model redesign is frequently mentioned and extensively discussed in Teece's (2007) original work and in subsequent studies as an important seizing capability (Helfat et al., 2007; Schilke et al., 2018; Teece, 2018b).

The successful combination of sensing and seizing leads to new positions and paths which lead to growth and profitability (Helfat & Peteraf, 2009). With this growth comes the augmentation of enterprise-level resources (Eisenhardt & Martin, 2000). Key to sustain this growth is the ability to recombine and reconfigure resources and organizational structures, referred to as dynamic *transforming* capabilities (Teece, 2007). When the strategic choices that are made to seize identified opportunities ask for it, the accumulated asset base of the organization should be reconfigured in order to adapt to the changing circumstances (Helfat & Peteraf, 2009), dynamic transforming capabilities allow the firm to do this successfully. Moreover, in times of change, there is a continuous need to modify organizational resources and capabilities to make the organization fit with its environment (Helfat & Winter, 2011). How these organizational processes work in detail remains an important omission in dynamic capabilities research (Harris et al., 2009; Schilke et al., 2018).

2.3.2 Hierarchical levels of dynamic capabilities

There have been discussions about the differences between operational and dynamic capabilities and the levels of dynamic capabilities that exist (Helfat & Winter, 2011; Zahra et al., 2006). While some authors argue there to be an infinite number of hierarchical levels of dynamic capabilities (Collis, 1994; Winter, 2003), despite typological differences, there can be identified four layers of capabilities in the literature: one layer of ordinary capabilities and three layers of dynamic capabilities (see Table 2.6), which are: first-order, second-order and high-order dynamic capabilities (Ambrosini & Bowman, 2009; Collis, 1994; Danneels, 2002; Teece, 2018b; Winter, 2003).

At the base level of the organization, there are ordinary capabilities. Ordinary capabilities consist of the routines and operational activities such as administration, and so on. The stationary processes of ordinary capabilities allow the organization to operate in a more or less efficient way (Teece, 2007) and to "earn a living now" (Winter, 2003: 992). Without ordinary capabilities the firm would not be able to make revenues. Ordinary capabilities are rather static of nature.

First-order dynamic capabilities are the firm's capabilities of changing the product, the production process, scale, or markets (Winter, 2003). First-order dynamic capabilities consist of specific strategic and organizational processes that create value for firms within dynamic markets (Eisenhardt & Martin, 2000). Different from ordinary capabilities, first-order capabilities are dynamic and enable the firm to create new value-creating strategies by altering the resource-base (Grant, 1996). First-order dynamic capabilities are no vague unidentifiable processes. Rather, they are routinized responses to environmental changes (Schilke, 2014a; Winter, 2003). Examples are new product development processes, strategic decision making, and alliancing (Eisenhardt & Martin, 2000; Winter, 2003). Due to the routinized nature of the dynamic capabilities at this level, they allow firms to respond to familiar types of change (Schilke, 2014b).

Second-order dynamic capabilities refer to the ability to identify, evaluate, and incorporate new competences into the firm (Danneels, 2002; Schilke, 2014a). Second-order dynamic capabilities are used to acquire first-order and ordinary capabilities and involve the adjustment and recombination of those capabilities (Danneels, 2008; Teece, 2018b). Different from the lower level capabilities, second-order dynamic capabilities sit on a higher level and are not specific to a certain domain of knowledge and skills. Rather, they refer to the ability to learn new domains (Danneels, 2002). 'Learning to learn' is a capability that can supersede lower level capabilities in fast changing environments (Collis, 1994; Schilke, 2014a). Deliberate investments in organizational learning facilitates the creation of second-order capabilities that allow for the modification of lower level capabilities (Winter, 2003; Zollo & Winter, 2002). The possession of these capabilities allows the firm to overcome position and path dependencies (Schreyögg, Sydow, & Holtmann, 2011; Teece et al., 1997).

Thus, first-order dynamic capabilities are identifiable processes that enable firms to alter how they currently make a living. They are mainly useful to address familiar types of change. Therefore, first-order dynamic capabilities are especially useful in environments with a moderate level of change. Second-order dynamic capabilities, on the other hand, operate on a higher level. They are not a combination of identifiable processes in a certain domain. Rather, they refer to the ability of firms to learn about new ways of altering the way they make a living. Second-order dynamic capabilities are especially useful in the environments that are known for rapid and disruptive change (Schilke, 2014b, 2014a; Schilke et al., 2018).

Guiding the first and second-order dynamic capabilities are the high-order dynamic capabilities. High-order dynamic capabilities are the highest layer of dynamic capabilities and are the capabilities by which management senses and shapes opportunities and threats, seizes opportunities, and maintains competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the enterprise's intangible and tangible assets (Teece, 2007). The layer of high-order dynamic capabilities has developed into a sub-field of dynamic managerial capabilities (Adner & Helfat, 2003; Helfat & Martin, 2015). Dynamic managerial capabilities guide second and first-order dynamic capabilities through managerial action (Teece, 2018b). Different from first-order dynamic capabilities, high-order dynamic capabilities are unlikely to be fully routinized as they depend mainly on managerial competences (Helfat & Martin, 2015; Teece, 2007). The concept of dynamic managerial capabilities, introduced by Adner and Helfat (2003), emphasizes the role of the top management team in the dynamic capabilities' literature. The concept helps to explain the heterogeneity in managerial decisions while coping with environmental changes (Adner & Helfat, 2003; Helfat & Martin, 2015). With the introduction of the dynamic managerial capabilities perspective, the literature moved from an organizational towards a managerial level of analysis where the role of the top management team in organizational adaptation is emphasized. Table 2.6 provides an overview of the four layers of (dynamic) capabilities.

Table 2.6 The four layers of (dynamic) capabilities

Layer	Level	Explanation	Examples
High-order dynamic capabilities	Managerial	Represent the capabilities of management to sense, seize, and transform competencies that adjust and direct ordinary capabilities and first and second-order dynamic capabilities in order to obtain and maintain competitive advantage (Teece, 2007) Less routinized than lower level capabilities and depend mainly on managerial competences (Teece, 2018b).	Management's ability to guide all levels of product development routines by sensing and seizing opportunities and threats in the business environment, and reconfiguring tangible and intangible assets (Adner & Helfat, 2003)
Second-order dynamic capabilities	Organizational	Ability to identify, evaluate, and incorporate new competences into the firm (Danneels, 2002) Learning capabilities that can supersede lower level capabilities in fast changing environments (Collis, 1994; Schilke, 2014a)	Routines to reform new product development routines (Zahra et al., 2006)
First-order dynamic capabilities	Organizational	Enable the firm to create new value creating-strategies by altering the resource-base (Grant, 1996) Capabilities of changing the product, the production process, scale, or markets (Winter, 2003)	New product development routines (Eisenhardt & Martin, 2000)
Ordinary capabilities	Organizational	Stationary processes that allow the firm to 'earn a living now' (Winter, 2003) Organizational routine activities to operate in a more or less efficient way (Teece, 2007)	Production routines of existing products (Winter, 2003)

Source: Own elaboration

2.3.3 Dynamic Managerial Capabilities

Dynamic managerial capabilities are "the capabilities with which managers build, integrate, and reconfigure organizational resources and competences" (Adner & Helfat, 2003: 1012) in order to achieve congruence between the firm's competencies and the changing environmental conditions (Eggers & Kaplan, 2013; Kor & Mesko, 2013) and are the microfoundations of dynamic capabilities (Helfat & Peteraf, 2015; Teece, 2007). In line with Teece's (2007) typology, dynamic managerial capabilities are reflected in management's capacity to (1) sense and shape opportunities and threats, (2) seize opportunities, and maintain competitiveness through (3) enhancing, combining, protecting, and, when necessary, reconfiguring the enterprise's intangible and tangible assets (Schilke et al., 2018; Teece, 2007). The three classes represent a procedural distinction between management's capacity to understand the environment (sensing), to make strategic choices to address environmental opportunities and threats (seizing), and when necessary, reconfigure the firm's structure, resources and capabilities accordingly (Helfat & Martin, 2015; Schilke et al., 2018).

Managers draw on a set of underlying managerial resources that allows them to sense, seize and transform being; *managerial human capital, managerial social capital*, and *managerial cognition* (Adner & Helfat, 2003; Helfat & Martin, 2015). These underlying managerial resources, separately or in combination "provide the basis for patterned aspects of managerial intentionality, deliberation, decision making, and action" (Helfat & Martin, 2015: 1285). In combination they help to explain the heterogeneity in managerial decisions, hereby emphasizing managerial impact on strategic change (Kor & Mesko, 2013).

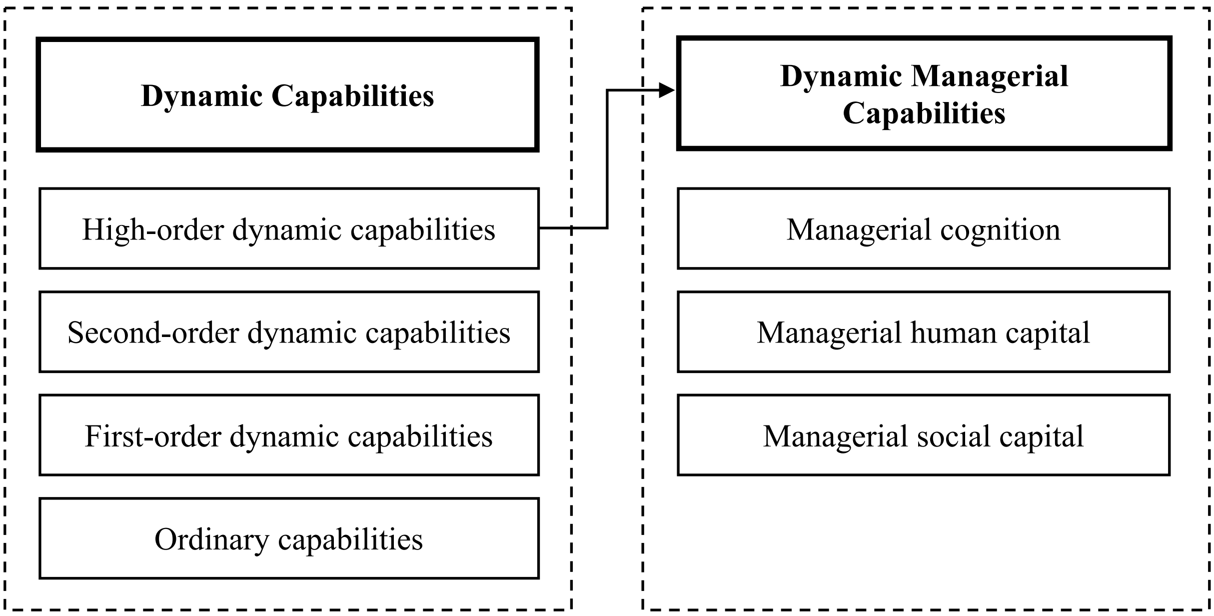
Managerial human capital refers to the learned skills and knowledge repertoire of managers that has been shaped by investment in education, training, and learning in a more general way (Becker, 1964; Sirmon & Hitt, 2009). Managers develop themselves and their expertise while acquiring knowledge and perfecting their abilities through prior work experience (Hitt, Bierman, Shimizu, & Kochhar, 2001; Lepak & Snell, 1999). Besides, not only professional experience, but also personal experience shapes managers' human capital (Kor & Mesko, 2013). Experience in a specific industry or organization shapes the skills and knowledge base of managers, making their human capital more suited to that specific situation (Davidsson & Honig, 2003). For instance, managers with experience in high-technology industries are able to develop specialized skills and acquire specialized knowledge about technology which they might be able to use in other situations.

Managerial social capital (Coleman, 1988) refers to the ability of managers to access resources through the structure and content of their social relations (Adler & Kwon, 2002; Kor & Mesko, 2013). Both formal (e.g. professional networks) and informal (e.g. friendships) social relations are transferrable to work settings and help managers to acquire essential resources and provide them with critical information for decision making (Adner & Helfat, 2003). Those social relations can be divided into internal and external social capital. Internal social capital refers to the social ties and networks within the organization and facilitates the sharing of knowledge within different levels of the firm (Sirmon et al., 2007). External managerial social capital refers to the social ties of managers outside the organization. External ties can provide access to external sources such as finance, and also provide managers with information about practices in different organizations (Adner & Helfat, 2003). Social capital can thus take various forms. Although forms differ, they share two common characteristics: (1) they constitute some aspect of the social structure, and (2) they facilitate the actions of individuals within the structure (Nahapiet & Ghoshal, 1998). Since social capital emphasizes the social structure, an important difference between social capital and other forms of capital, is that social capital is owned jointly by the actors involved and no one party has exclusive ownership rights (Burt, 1992). For instance, friendships cannot be easily traded from one person to another. Thus, although social capital is valuable in use, it is intangible and relies in the social structure and not in one actor alone (Nahapiet & Ghoshal, 1998). The second characteristics highlights that social capital allows for the achievement of ends that would be impossible without social capital or could only be achieved at extra cost (Nahapiet & Ghoshal, 1998). For instance, strong external managerial ties help managers to get in contact and embrace desirable business partners and to collect a great deal of customer, supplier, and competitor information (Guo et al., 2013; Timmers, 1998).

Managerial cognition is the third underpinning of dynamic managerial capabilities and refers to the beliefs and mental models of managers that are used for decision making (Kor & Mesko, 2013; Walsh, 1995). The cognitive base of managers consists of knowledge about future events, knowledge about alternatives, and knowledge about the consequences of alternatives (Adner & Helfat, 2003). Eggers and Kaplan (2013) in their study emphasize that managerial cognition is central in the process of capability development and deployment though three central processes: the construction of routines, the assembly of routines into capabilities, and matching of (perceived) capability application to (perceived) opportunities (Eggers & Kaplan, 2013). The central role of cognition in dynamic managerial capabilities also indicates that the cognitive base of managers forms the basis for the interpretation of information, strategic decision-making and sequentially, firm performance (Hambrick & Mason, 1984).

All three underpinnings of dynamic managerial capabilities are strongly interrelated (Adner & Helfat, 2003). First of all, managerial human capital, managerial social capital and managerial cognition develop through experience. The same experience may contribute to the three underpinnings simultaneously (Beck & Wiersema, 2013). Secondly, the information and knowledge that can be obtained through formal and informal relationships of managers (managerial social capital) can be crucial in building and renewing the skills and knowledge repertoire of managers (managerial human capital) (Kor & Mesko, 2013). Thirdly, by influencing the search for, and the interpretation of, information, cognition influences managers' human capital (Helfat & Martin, 2015). Finally, cognition and social capital both affect each other. The information that managers obtain via social ties might influence manager's image about the external environment. On the contrary, managerial beliefs affect the social relations managers opt for (Adner & Helfat, 2003). Figure 2.1 provides an overview of the relations between the constructs in the dynamic capabilities framework.

Figure 2.1 Dynamic Managerial Capabilities and the three underpinnings



Source: Own elaboration

2.4 HIGH-GROWTH FIRMS

High-growth firms (HGFs), often referred to as scale-ups, are defined as organizations with at least 20% of annual growth rate in terms of revenue and/or employees over a three-year period, and with at least 10 employees in the base year (OECD, 2007). Different from the other building blocks of this doctoral dissertation, high-growth firms are not a theoretical construct. Rather, HGFs represent an important phenomenon that recently attracted significant research attention in the academic management literature (Demir et al., 2017). The aim of this chapter is not to provide a comprehensive literature review. Rather, it is to provide an introduction of the phenomenon and to highlight what has been studied in the literature in order to identify fertile ground for further research on which the empirical studies in this dissertation will elaborate.

2.4.1 The economic importance of high-growth firms

Studies have shown that although only a very small proportion of about three percent of all start-ups is able to survive and scale-up successfully (Brüderl & Preisendörfer, 2000; Feindt et al., 2002), they are important for economic growth and prosperity of entire countries or regions (Henrekson & Johansson, 2010; Lopez-Garcia & Puente, 2012; Nightingale & Coad, 2014; Shane, 2009). Studies that examined the economic importance of HGFs show that they are the main driver of wealth and job-creation (Davidsson & Henrekson, 2002; Du & Temouri, 2015). These studies also indicate that by their rapid growth, HGFs strongly affect employment rates and therefore have an important impact on the wider economy (Huber, Oberhofer, & Pfaffermayr, 2014; Nightingale & Coad, 2014). What is more, studies on the economic importance of scale-ups highlight that HGFs also generate positive externalities in terms of enhanced productivity and innovativeness that leads to industry growth within regions and countries (Bos & Stam, 2014). By establishing new business models and leveraging new technologies, high-growth firms bring about change and innovation in regional and national ecosystems (Jansen, 2019). Taken together, these studies show that scale-ups are considered important contributors to economic growth and prosperity.

2.4.2 High-growth firms in the field of management

Besides interest in the economic importance of HGFs, the phenomenon has received ample attention within a variety of other research domains such as entrepreneurship, strategic management and public policy (Daunfeldt, Elert, & Johansson, 2016; Krasniqi & Desai, 2016; Rindova, Yeow, Martins, & Faraj, 2012; Stam, 2015). The dominant research method applied in the high-growth context is quantitative and most studies relied on either secondary or survey data (Barbero et al., 2011; Gundry & Welsch, 2001; Mohr, Garnsey, & Theyel, 2014). The main insights of these studies have been on the antecedents and consequences high-growth (Dobbs & Hamilton, 2007; Henrekson & Johansson, 2010).

Studies in the management literature have started to investigate the strategic characteristics of high-growth firms (Demir et al., 2017) and have found a number of organizational level practices related to rapid growth. At the organizational level, different characteristics such as organizational structure and resource allocation decisions have been identified that might be relevant for high growth (Feeser & Willard, 1990; Moreno & Casillas, 2007; Siegel, Siegel, & Macmillan, 1993). For instance, these studies have shown that the number of alliances, the degree of internationalization (Mohr et al., 2014) and organizational networks, customer knowledge, and training and development-oriented HR practices (Barringer, Jones, & Neubaum, 2005) are all related to high growth. Additionally, authors have examined firm level outcomes of high growth by, for instance, linking it to profitability (Markman & Gartner, 2002).

Closely linked to the dynamic capability perspective, authors examined potential organizational capabilities that are related to high growth (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009). The findings of these studies suggest that different functional capabilities, such as marketing, financial and innovation capabilities seem to be correlated with high growth. For instance, Stam and Wennberg (2009) found that strong R&D capabilities are a predictor of fast growth in organizations. Barbero and colleagues (2011) focused on the relation between different types of dynamic capabilities and high growth. They found that firms should possess strong marketing and financial capabilities in order to develop growth enhancing market expansion and innovation strategies as the means for achieving high growth.

Another closely related body of research focused on the relation between individual level characteristics of founders and top managers on high growth (Barringer et al., 2005; Florin, Lubatkin, & Schulze, 2003; Gundry & Welsch, 2001; Willard, Krueger, & Feeser, 1992). Studies show that founders' human capital (Barringer et al., 2005; Feeser & Willard, 1990) and social capital (Florin et al., 2003), two managerial resources underpinning top managers' dynamic managerial capabilities, are important for high growth. Additionally, Gundry and Welsch (2001) found that 'high-growth' entrepreneurs differ from 'low-growth' entrepreneurs by their, among other factors, stronger entrepreneurial intensity and leadership skills.

In related work, Shuman, Shaw, and Sussman (1985) identified a number the strategic planning practices of top management teams related to high growth rates in scale-ups. Lastly, studies investigated the ongoing debate between the performance of founder-managed versus "professionally" managed high-growth firms and so far have not found significant differences (Willard et al., 1992).

Taken together, the growing body of literature on HGFs in the management field provides valuable insights into the managerial and organizational antecedents and outcomes of high growth. However, mainly due to the quantitative approaches that have been used in these studies, the main focus of the management literature on HGFs has been on the questions of 'how many' rather than questions of 'how' and 'why' firms achieve steep growth paths over time (Dobbs & Hamilton, 2007; Henrekson & Johansson, 2010).

Only a limited number of studies has addressed the specific managerial and organizational challenges that rapid growth creates (Hambrick & Crozier, 1985; Lee, 2014; Nicholls-Nixon, 2005). Lee (2014) provided a general overview of frequent challenges within high-growth firms, being lack of management skills, and recruitment and financial issues. In a similar vein, Hambrick and Crozier (1985) highlight that high growth creates problems of disaffection, inadequate skills, and inadequate systems and extraordinary resource needs. Lastly, Nicholls-Nixon (2005) also found that when companies rapidly scale in size, their internal environments 'suffer' from dramatic changes in managerial scope, and continuous and fast change, which often result in the inappropriateness of practices and structures in place. Altogether, studies have shown that rapid growth results in challenges for (managerial) skills, organizational practices and structures, and (human) resource needs. While these studies provide valuable insights into the challenges of high growth, they do not explain how firms manage to overcome them.

The sparsity of studies addressing 'how' firms achieve and sustain high growth rates means that our current understanding about the foundations of and processes underlying high growth has remained rather limited (Demir et al., 2017; Wright & Stigliani, 2013). This is an important gap in the literature because thorough understanding of HGFs requires not only the identification of its determinants and outcomes (Demir et al., 2017; Jansen & Roelofsen, 2018), but also the way in which firms manage to alleviate the challenges they face. Chapters 4 and 5 of this dissertation aim at addressing this omission by providing a more dynamic perspective on *how* high-growth firms manage to achieve and sustain high growth rates over prolonged periods of time.

Chapter 3: Without friction, no shine: How top management's Dynamic Managerial Capabilities combine in the process of Business Model Innovation

3.1 INTRODUCTION

> *"A gem cannot be polished without friction, nor a man perfected without trials."* - Lucius Annaeus Seneca

Top managers of established firms have to bring about business model innovation (BMI) in order to protect their competitive position in the constantly changing business environment (Saebi et al., 2017). Studies have shown that firms that innovate their business model i.e., firms that make designed, novel and nontrivial changes to the way they create and capture value, outperform their competitors in almost every industry (Zott & Amit, 2007). Yet, business model innovation is a highly complex managerial task (Snihur & Zott, 2019). Although some managers have designed successful BMI in response to the changing environmental circumstances, many others have experienced strong difficulties and failed to go through the process of BMI successfully (Chesbrough & Rosenbloom, 2002; Tripsas & Gavetti, 2000). As BMI requires top managerial attention, the ability to innovate the business model has been argued to strongly rely on the dynamic managerial capabilities, "the capabilities with which managers build, integrate, and reconfigure organizational resources and competences" (Adner & Helfat, 2003: 1012), of the firm's top management (Helfat & Peteraf, 2015; Teece, 2018b).

Prior studies have contributed to our understanding of the role of dynamic capabilities in the process of business model innovation (Achtenhagen, Melin, & Naldi, 2013; Schneider & Spieth, 2013). For instance, scholars have shown that dynamic capabilities are an important internal antecedent of business model innovation (Foss & Saebi, 2017) and that strong dynamic capabilities are vital for the creation and implementation of effective business models (Teece, 2018b). More precisely, studies have shown that differences in dynamic capabilities of the top management team explain the heterogeneity of business model innovation decisions (Frankenberger & Sauer, 2019; Martins et al., 2015). Collectively, these studies indicate that top management team's DMC are leading in the business model innovation process (Helfat & Martin, 2015).

Dynamic sensing and seizing capabilities are especially relevant for achieving superior business model innovation (Frankenberger & Sauer, 2019; Teece, 2007). Dynamic managerial sensing capabilities refer to management's ability to recognize and interpret opportunities and threats in the external environment such as changing customer needs, technological opportunities, and competitive developments, among others. Seizing capabilities refer to the actions where managers take hold of the identified opportunities and threats by reconfiguring organizational resources and capabilities in order to meet those new challenges (Harreld, O'Reilly Ill, & Tushman, 2007). Moreover, seizing capabilities are higher-order capabilities, which include "actions that constitute astute managerial decision making under uncertainty" (Teece, 2018: 41). Dynamic managerial sensing and seizing capabilities thus explain how managers gather and process information to make sense of the business environment and make decisions accordingly (Helfat & Martin, 2015; Martin, 2011).

Taken collectively, research has shown that firms rely on the dynamic managerial capabilities of their top management teams in the process of business model innovation (Frankenberger & Sauer, 2019; Teece, 2018b). Yet, these studies tell us little about how top management's DMC combine in the process of BMI. Most studies have either focused on CEO's individual dynamic capabilities (e.g. Eggers & Kaplan, 2009; Gröschl, Gabaldón, & Hahn, 2019), or on top management team's DMC collectively i.e., the average of the top management team members' DMC (e.g. Sirmon & Hitt, 2009). Despite the important insights, there remains an important gap in our understanding of how the DMC of individual top managers combine within a team by the means of interpersonal interaction (Brettel et al., 2018; Salvato & Vassolo, 2018). This is a crucial omission because understanding what enables top managers to act collectively requires the examination of the mechanisms that bring together top managers individual DMC at the team-level (Salvato & Vassolo, 2018). To address this blind spot, we develop an empirically grounded model of dynamic managerial capabilities in which we unravel the mechanisms that allow the top management team to conjoin individual-level DMC in the process of BMI. By doing this, we make at least two contributions to the literature.

First, rather than taking the top management team as one unit of analysis, we disentangle this collective and investigate how the DMC of individuals are brought together in the team. Moving beyond earlier research that analyzed DMC as either the CEO's individual or the TMT's collective capabilities, our findings suggest that there is an important interplay between individual and team capabilities. We find that the initial sensing capabilities reside in the individual top managers. However, we identify *purposeful friction* as the mechanism that allows the TMT to enhance individual level sensing capabilities at the team level. Furthermore, our findings suggest that *collaborative value driven decision making* allows the top management team to improve the decision-making process by bringing together individual level seizing capabilities and we also highlight that *experimental implementation* strengthens the seizing process. By investigating DMC as a result of the interpersonal interaction of individuals, we address the call for further research on the microfoundations of dynamic managerial capabilities (Brettel et al., 2018), move beyond recent one dimensional insights, and illustrate how top managers' DMC combine in the process of BMI.

Second, although studies converge on sensing and seizing as the procedural levels of dynamic capabilities (Schilke et al., 2018; Teece, 2007), our understanding about how identifying opportunities and threats in the business environment (sensing) leads to action where managers design new business models to address those opportunities (seizing) is limited (Schilke et al., 2018). This is an important omission because both capabilities are recognized as fundamental, interrelated and necessary for successful adaptation (Helfat et al., 2007). Moreover, research has shown that even firms with superior sensing capabilities do not achieve competitive advantage if they fail to capitalize on the identified opportunities (Chesbrough & Rosenbloom, 2002). Our study addresses this research gap and suggests how managerial sensing and seizing capabilities are linked within the process of business model innovation. What is more, in our process model we highlight how individual level sensing capabilities combinedly lead to collective team level seizing. By revealing the mechanisms, we provide a systematic understanding of how the procedural levels of dynamic managerial capabilities are linked and sequenced.

Given the limited theoretical insights and empirical evidence about the team-level dynamic managerial capabilities we carried out an inductive theory building approach (Gehman et al., 2018; Gioia et al., 2012) and conducted an in-depth case study of the business model innovation process of the biggest independent fashion retailer in the Netherlands. This case is particularly suited for this study because for a traditional physical retailer to introduce an online business model indicates a designed, novel and nontrivial change to the business model (Kim & Min, 2015). We were able to follow the BMI process in real time as well as retrospectively what provided a rich context for a longitudinal examination of how DMC combine in the process of BMI. The fact that we have been able to be closely in contact with all TMT members made it an extremely suitable case to answer our research questions.

3.2 THEORETICAL BACKGROUND

3.2.1 Business model innovation

The business model in the most basic sense describes how a firm does business (Magretta, 2002). As research on the business model has attracted significant attention, various business model perspectives have been developed (Massa et al., 2017). We follow the activity perspective (Zott & Amit, 2010) and define the business model as an "activity system that centers on a focal firm, yet may encompass activities performed by its partners, suppliers, and customers in the pursuit of value creation and capture" (Chesbrough, 2010; Snihur & Zott, 2019: 5). Following this perspective, the business model contains three core elements: content, structure, and governance (Zott & Amit, 2010). Content refers to the activities within the system that are performed with the goal to create and capture value; structure refers to how these activities are linked and sequenced and can be seen as the architecture of the business model (Teece, 2010); and governance refers to who is in charge of the activity (Amit & Zott, 2001, 2015).

Architecting the three core elements of the business model is a concrete managerial task of the focal firm's top management (Casadesus-Masanell & Ricart, 2010) and in order to assure sustainable value creation and capture, managers have to actively adapt and innovate their firm's business model (Casadesus-Masanell & Zhu, 2013). Managers can innovate their firm's business model by making changes to one or more elements of the business model separately or in a coordinated way (Foss & Saebi, 2017). Thus, BMI occurs when the firm adds or adapts its value creating and/or capturing activities (content); reorganizes the linkages between activities (structure); and/or changes the responsibility of activities, for instance by bringing in partners or outsourcing activities (governance). Studies have shown that BMI has a positive effect on the financial performance of organizations (Kim & Min, 2015; Zott & Amit, 2007).

Scholars have identified exogeneous change as important driver of BMI. For instance, scholars have identified technological change (Teece, 2018a), economic crises (Sosna, Trevinyo-Rodríguez, & Velamuri, 2010), and competitive pressure (Johnson et al., 2008) as important external antecedents of BMI. Another stream of research has investigated the internal drivers of BMI. For instance, Osiyeveskyy and Dewald (2015) shed light on how top managers' perceptions of the environment affect their BMI choices. In a similar vein, Saebi, Lien and Foss (2017) show that when managers perceive the environmental stimuli as a threat, they are more inclined to innovate their firm's business model, while opportunity perceptions tend to have the reversed effect. These studies have in common that they point at the importance of management's perception of the external developments as antecedents of BMI. While these studies have made a valuable contribution by opening this stream of research, there is still a significant gap in our understanding of the role of managers in the process of BMI (Snihur & Zott, 2019). Moreover, we still know little about the micro level mechanisms through which business model innovation occurs (Foss & Saebi, 2017). A valuable literature that can help us to understand how managers bring about business model innovation is the dynamic managerial capabilities literature (Foss & Saebi, 2017; Teece, 2018b).

3.2.2 Dynamic Managerial Capabilities

Dynamic managerial capabilities are "the capabilities with which managers build, integrate, and reconfigure organizational resources and competences" (Adner & Helfat, 2003: 1012). Dynamic managerial capabilities are reflected in management's ability to sense, seize and reconfigure (Schilke et al., 2018; Teece, 2007). The three classes represent a procedural distinction between management's capacity to understand the environment (sensing), to make strategic choices to address environmental opportunities and threats (seizing), and when necessary, reconfigure the firm's structure, resources and capabilities accordingly (Helfat & Martin, 2015; Schilke et al., 2018).

Creativity and innovation in organizations depend mainly on top management's sensing and seizing capabilities (Helfat & Peteraf, 2015). Also, management's sensing and seizing capabilities are vital for the successful innovation of the firm's business model (Frankenberger & Sauer, 2019; Teece, 2018b). As noted by Demil, Lecocq, Ricart, and Zott (2015: 3) "a firm's decision to change its business model in order to exploit a new business opportunity and to create and/or capture more value does not necessarily involve a resource move, as the new model could be enabled by the same resources as the old one.". Moreover, management's sensing and seizing capabilities are strongly underpinned by managers' cognitive capabilities and refer to managerial sensemaking and decision-making. Reconfiguring capabilities, on the other hand, refer to manager's capacity to communicate the proposed changes into the organization (Helfat & Peteraf, 2015).

In this paper we focus on the first two procedural levels of dynamic capabilities for two reasons. First, sensing and seizing capabilities refer mainly to the managerial level of analysis whereas reconfiguring capabilities involve the organizational level of analysis, therefore the specific contribution of managers is more clearly identifiable in the first two procedural levels. Second, both sensing and seizing capabilities have been particularly proven to be important in the BMI process but are also more blurred and tacit than the more specific reconfiguration changes, so there is an important need for unraveling the mechanisms underlying these two capabilities.

Dynamic managerial capabilities draw on a set of underlying managerial resources: managerial human capital, managerial social capital and managerial cognition (Adner & Helfat, 2003). These underlying managerial resources, separately or in combination "provide the basis for patterned aspects of managerial intentionality, deliberation, decision making, and action" (Helfat & Martin, 2015: 1285). Hence, they explain how managers sense and seize the business environment in times of change (Helfat & Martin, 2015; Martin, 2011).

Despite the development of the theory and its empirically proven importance for organizational performance, our understanding is limited about how the interaction of dynamic managerial capabilities of individuals in the TMT affects team decision making, particularly with regard to strategic change (Helfat & Peteraf, 2015). Scholars have mainly focused on either the CEO (e.g. Eggers & Kaplan, 2009), or the team as a collective (e.g. Beck & Wiersema, 2013). Focusing on individual top managers raises questions about team-based capabilities. Namely, in reality it is seldom the case that a single manager leads an entire company. More often, this role is assigned to the top management team (Martin, 2011). On the other hand, analyzing team capabilities by looking at the top management team as one collective does not capture *how* individual level capabilities combine in the top management team (Salvato & Vassolo, 2018). As Helfat and Peteraf (2015: 846) note: "We also know relatively little about how the interaction of cognitive capabilities of individuals in the top management team affects team decision making, (…) Future research could investigate whether diversity of managerial cognitive capabilities within a team helps or hinders strategic change".

Only recently have authors started to acknowledge and investigate the microfoundations of the dynamic managerial capabilities perspective (Brettel et al., 2018; Salvato & Vassolo, 2018). Brettel and colleagues (2018) in their study find that CEO's personality traits affect organizational level human and social capital. These two types of organizational level knowledge-based capital are the microfoundations that facilitate the development of organizational level dynamic capabilities. While it is an important first step in the understanding of the microfoundations of DMC, it does not capture the interaction at the top management team level. Salvato and Vassolo (2018) in their conceptual study, to the best of our knowledge, were the first to look into how individual level capabilities combine in the team of top managers. In their study they develop a multi-level framework that explains dynamic capabilities as a construct that emerges from top managers' individual managerial resources through interpersonal interaction in the top management team.

All in all, existing research points at the dynamic managerial capabilities' perspective as a fruitful ground to study how top management teams bring about business model innovation. Yet, it does not reveal the mechanisms that explain how top managers individual level DMC combine in the top management team, making it a fruitful avenue for further research (Foss & Saebi, 2017; Helfat & Martin, 2015; Salvato & Vassolo, 2018). Hence, we ask: *How do top management's dynamic managerial capabilities combine in the process of business model innovation?*

3.3 RESEARCH METHODS

Given the limited theory and evidence about the team-level interaction of dynamic managerial capabilities we draw on an inductive theory-building case study design as it gave us the opportunity to gain deep insight into this rather under researched phenomenon (Gehman et al., 2018; Gioia et al., 2012). We adopt an in-depth single case study design as it allows us to capture the longitudinal, processual nature of the BMI process (Langley, 1999). We opt for an embedded design with multiple levels of analysis (business model innovation process, the top management team and individual top management team members) to strengthen the richness and accuracy of our theorizing (Snihur & Zott, 2019; Yin, 2014).

3.3.1 Research context

Inspired by Kim and Min (2015) we conduct our study in the retail industry. Online retailing, considered a new business model archetype in retailing (Zott et al., 2011), has developed into an important, disruptive business model in the industry, putting a lot of pressure on incumbent firms (Hagberg, Jonsson, & Egels-Zandén, 2017; Kim & Min, 2015).

We have specifically chosen CLOTHING[2] as single organization for our study because we believe it to be a revelatory and exemplary context that enables us to gain insights that might not be possible in more typical cases (Eisenhardt & Graebner, 2007; Sigglekow, 2007). CLOTHING became the biggest independent fashion store in the Netherlands by putting emphasis on its physical store. By constantly improving their clients shopping experience by strongly valuing service, quality and personal attention they grew out to a well-respected store in the Netherlands. This did not remain unnoticed and their store was awarded multiple times, including the award for "Best independent store in the Netherlands" in 2010. Yet, in that same

[2] CLOTHING is a pseudonym we use to ensure the anonymity of the organization that we studied

year they introduced an online business model, seemingly incompatible to the service they offered in their physical store. Nevertheless, since the introduction of their online business model, CLOTHING grew significantly in profits (61%) as well as FTE (54%), suggesting a successful BMI. The decision of CLOTHING to not only adjust the extant business model, but to introduce a completely new business model indicates an important managerial decision (Teece, 2018b). Hence, the case allows us to delve deeper into the top managerial decision-making progress of business model innovation and to answer our research question of how top management's dynamic managerial capabilities combine in this process. Moreover, as the business model innovation process started relatively recently, and the process is still not finished, we could capture both real time and retrospective data. Table 3.1 provides a description of the business model and the most important financial features of CLOTHING throughout the Business Model Innovation process.

Table 3.1 Business Model description and financial profile throughout the BMI process

	Start BMI process Start Phase 1 –2010	**End Phase 1 – Start Phase 2 –2016**	**Integrated BM Phase 2 –2018**
Business Model Description	One physical store with 10,000 square meters shopping space	One physical store with 15,000 square meters shopping space & E-commerce business model at separate location with separate warehouse	One physical store with 17,000 square meters shopping space & Integrated e-commerce business model at same location. Order picking from physical store's stock
FTE	198	267	305
FTE growth in phase	n.a.	69 (35%)	38 (14%)
FTE growth in process	n.a.	69 (35%)	141 (54%)
Operating Revenue	unknown	unknown	51.4 million euros
Profit	1.9 million euros	1.6 million euros	3.0 million euros
Profit growth in phase	n.a.	-0.3 milloen euros (13%)	1.4 million euros (84%)
Profit growth in process	n.a.	-0.3 milloen euros (13%)	1.1 million euros (61%)

NOTE: The FTE numbers are the numbers of January 1st of each year. The key financial numbers are the numbers over the year prior to the start of each phase in the business model innovation process. This way, we can most accurately track the effect that the business model innovation process has on the financial profile of the organization.

Source: Primary data and Orbis database by Bureau van Dijk

An important characteristic of CLOTHING is the fact that it is a family firm. All top management team members are relatives, the CEO is the oldest member and the CCO and COO are his sons. The ownership is equally distributed among the top management team members. We believe this context to be suited to answer our research questions for several theoretical and empirical reasons. First, with over 14 million family businesses in Europe which together provide over 60 million jobs in the private sector, family firms are the backbone of the European economy (KPMG, 2015). In Europe, family businesses represent from 55% to 90% of all companies, depending on the country, and they are present in businesses of all sizes and operating in all sectors (KPMG, 2015). In the Netherlands, the geographic context of our study, 71% of all firms are family firms (Centraal Bureau voor de Statistiek, 2017). Our research context thus covers an important share of the European economy. Moreover, given the high percentage of family firms in our geographic context, a broad number of managers might benefit from our insights as the results may be transferrable to their firms.

Second, the family firm context could be an exemplary context for many nonfamily firms with regards to interpersonal interaction. Namely, family members have to find an equilibrium between the intersection of their work and family lives, making them more inclined to overcome interpersonal conflicts (Greenhaus & Powell, 2006).

Third, family firms tend to be more long-term oriented, making the managers more inclined to make decisions that ensure the long-term viability of their firms (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). This is important as it might help us to capture sustainable, rather than quick one-off, interpersonal mechanisms that bring together the individual top managers within the team over time. Hence, we believe that this is a suitable setting for a first empirical contribution and that it allows us to gather important theoretical insights into the interpersonal interactions of individual DMC within the team.

3.3.2 Data collection

Our main source of data came from private interviews conducted with the top management team members of CLOTHING. All interviews were recorded whenever possible and transcribed immediately after. Interviews lasted typically between 45 and 100 minutes.

Additionally, archival data was collected using firm's website, blogs and press coverage, including a number of press video interviews with the CEO that were available. Moreover, we have been able to enrich our data with TMT's notes made during important meetings. Finally, firm documents such as HR documents and presentations for government officials, that were often highly confidential, were consulted. The variety of data allowed us to triangulate and cross-check retrospective perceptions of the interviewees to limit the retrospective bias (Jick, 1979).

We went through three phases of data collection. As suggested by Gioia and colleagues (2012), we went through an iterative process of data collection and analysis and allowed for modifications as data collection progressed. First, we collected initial data. An exploratory interview and as much as possible archival and secondary data was collected in order to guide and structure the further data collection process. In this phase of data collection, managers and decision makers with key positions in the BMI process were identified. The first phase helped us to enhance our understanding of the BMI process of our case firm and the role of each individual TMT member in this process. After the initial data collection, we developed interview guidelines. In the second phase we conducted semi-structured interviews with the key actors in the BMI process with an emphasis on the TMT members involved in the process. In order to mitigate the risk of potential retrospective bias, we used specific interview techniques such as courtroom questioning and event tracking (Eisenhardt, 1989). Furthermore, we focused on critical events and decisions in the BMI process and asked open-ended questions that allowed respondents to provide further information. Open-ended questions also result in higher accuracy in retrospective studies (Graebner & Eisenhardt, 2004; Miller, Cardinal, & Glick, 1997). Within this phase we could interview all members of the top management team extensively. The information gathered in the second phase allowed us to construct the first draft of the BMI process and the corresponding role of the top management team in the process. In the third phase we focused on additional data gathering via secondary sources and compared semi-structured interviews of various managers to triangulate the data. During this combination of data collection and data analysis, a more comprehensive insight was formed that allowed us to identify possible gaps in our data. Finally, we conducted follow-up interviews to clarify certain concepts. Table 3.2 provides an overview of all data gathered.

Table 3.2 Data Overview

Data collection period	First	Second	Third	Minutes/pages	Total
Interviews				369 minutes 131 pages	9 interviews
Chief Executive Officer (TMT)	2	1	1	187 (48 pages)	4
Chief Commercial Officer (TMT)		2	1	95 (37 pages)	3
Chief Operating Officer (TMT)		1		41 (22 pages)	1
E-commerce Manager (Middle M.)		1		46 (24 pages)	1
Archival documents				603 pages	246 documents
Firm’s blog and website				62	34
Internal documents				51	10
Meeting notes				3	3
Presentations for local government				81	2
Press coverage				384 pages	191
Press video interviews				22 pages (30 minutes)	6

NOTES: Out of 9 interviews, 6 were recorded and transcribed. The labels in brackets indicate the hierarchical level of the interviewee: TMT refers to Top Management Team level; Middle M. refers to Middle Management level.

3.3.3 Data analysis

In order to initiate a leap in the data, we used well-known and widely used techniques of inductive qualitative data analysis such as content analysis and constant comparison (Miles & Huberman, 1994), to move from raw data to theoretical insights.

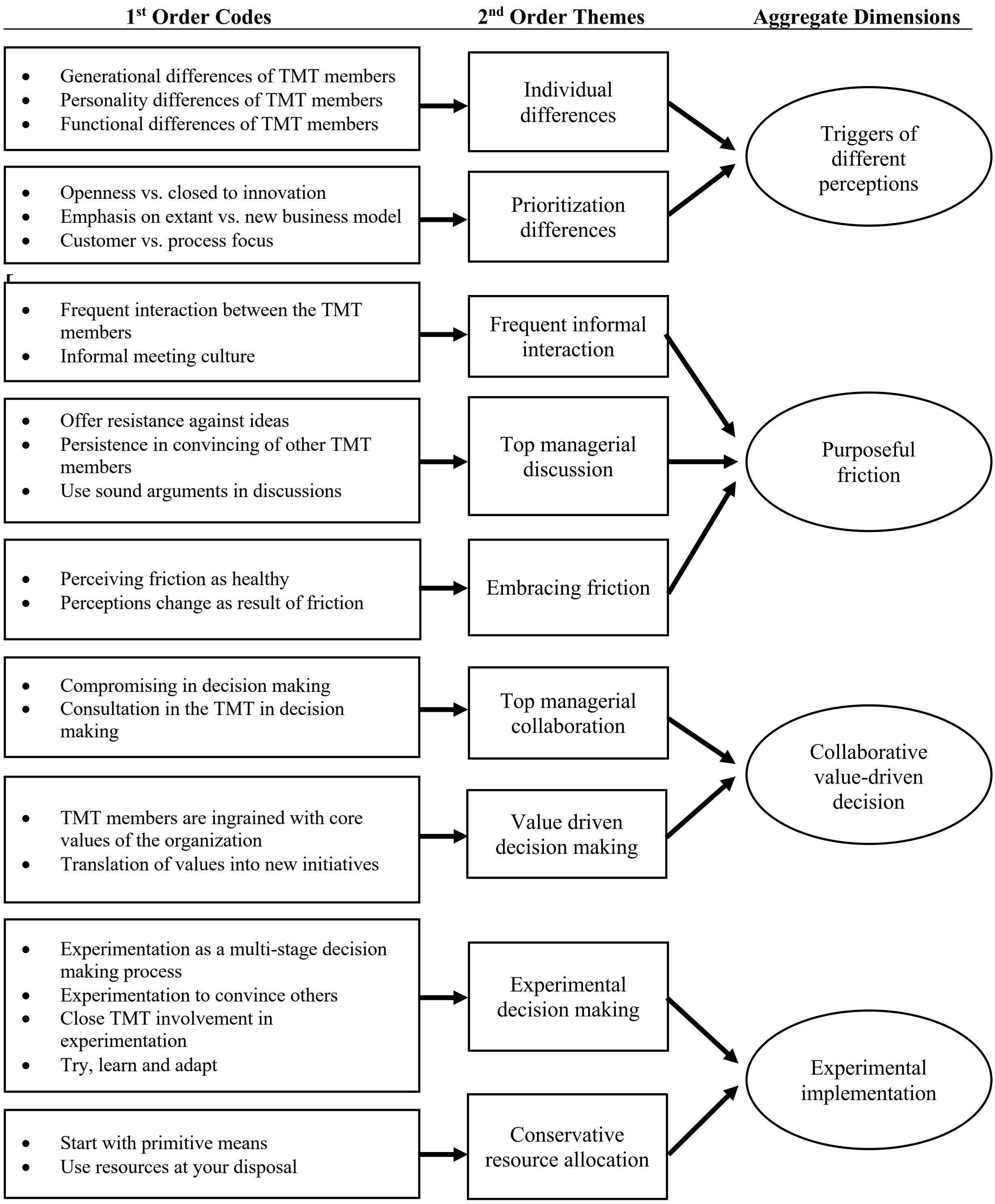
In our first stage of analysis we read all our data and wrote a thickly descriptive case narrative and a detailed timeline of the business model innovation process, documenting the key events and the role of the top management team (Ambos & Birkinshaw, 2010). The factual timeline of events combined with theoretical logic and the descriptions of our informants allowed us to make sense of the temporal dynamics of the process model (Vuori & Huy, 2016). This allowed us to track how various events and decisions influenced subsequent decisions over time. We noted two different phases in the business model innovation process in the data. From 2010 to 2016 CLOTHING focused on introducing and developing the new business model. Within this phase the decision to innovate the business model was made by the top management team, the business model design was refined, and the firm focused on the growth of the business model. From 2016 onwards, the business model was integrated back into the focal firm and the top management team focused on merging the online and offline business models in order to stimulate complementarities. During this time period, the focus was on aligning the two business models and leveraging the complementarities between them.

Building on these insights, in our second stage of analysis, we used the temporal bracketing technique to be able to decompose our data into two phases (Langley, 1999). Guided by the method described by Gioia and colleagues (Corley & Gioia, 2004; Gioia et al., 2012), we returned to the raw data and used open coding (Corbin & Strauss, 2014). We read all interview transcripts again and coded them using in-vivo codes to stay close to the data. If in-vivo codes were not available, we used a simple phrase to describe the content of the interviews. The initial codes included various topics such as "TMT members offer resistance against ideas" and we also included cognitive related themes such as "perceiving environmental changes as a threat to the extant business model". By comparing the first order codes within and across the identified phases, we were able to identify common empirical themes in the data (Eisenhardt, 1989). For a detailed overview of our first-order codes and supporting interview data, please see Table 3.3 in the appendix. Next, we engaged in axial coding during which we looked for relations among and between the created first order codes (Glaser & Strauss, 1967). This allowed us to move the data to a more abstract theoretical level in which we grouped our first order codes into second order themes (Gioia et al., 2012). When relevant, we iterated between data and theoretical construct to label our second order themes. This was not a linear process. Rather, we went through an recursive process of data analysis that continued until we had a clear grasp of the relationships between the constructs (Corley & Gioia, 2004; Eisenhardt, 1989). We developed a data structure (Gioia, Corley, & Hamilton, 2013) as a device that facilitated our comparison and the contrast of our codes as our understanding of the company's processes over time evolved (for an overview, see Figure 3.1).

Based on the advanced insights, we noticed that our emerging themes were related to the procedural levels of the dynamic capabilities literature (Teece, 2007). Building on this literature, we further explored the relation between managers sensing and seizing capabilities.

The procedural levels sensing and seizing helped us to better capture the processual nature of top management's role in the business model innovation process. In the last stage we examined our emerging themes reflecting them against the literature. This helped us to build our theoretical process model as we were better able to understand the process of how dynamic managerial capabilities combine in the process of business model innovation.

Figure 3.1 Data Structure



Throughout our data collection and analysis process we took several steps to ensure the validity of our findings. We applied the event tracking interview technique and asked for specific events to mitigate the risk of potential retrospective bias (Eisenhardt, 1989). Combining retrospective and real-time data allowed us to gather more robust insights into the entire business model innovation process and helped us to further reduce potential retrospective data (Leonard-Barton, 1990; Smith & Besharov, 2019). The data analysis was done by the authors themselves. First, the authors conducted the analysis independently and the results were later discussed and revised together. After that, the authors recoded the raw data using the emerged coding scheme. During the selective coding stage (Corbin & Strauss, 2014), the authors achieved a 92% inter-coder reliability. To further increase the trustworthiness of our data, we followed Shah & Corley (2006). We used various data sources to triangulate our findings, including press releases, internal documents, presentations, and meeting notes, among others. Moreover, we interviewed all TMT members and the middle manager individually in order to triangulate their perspectives and form a more-robust insight into the process (Vuori & Huy, 2016). We tested the validity of our findings using a member-check (Shah & Corley, 2006). We presented a summary of our findings to our informants and asked for feedback. The informants confirmed our theoretical model. As the CEO said: *"Yes that's right, you've seen that right"*.

3.4 THE HISTORY OF CLOTHING

The story of CLOTHING dates back to 1950 when Mr. and Mrs. CLOTHING opened a small tailor shop in a small village in the Netherlands. Over the years, CLOTHING grew out to become the biggest independent fashion retailer in the Netherlands in terms of square meters shopping space. The firm has gradually grown to over 15,000 square meters shopping space and €51.5 million revenues in 2017. Still not saturated, new ongoing renovations in the physical store will lead to 17,000 square meters shopping space in 2020. The physical store provides over 200.000 available items of more than 800 different brands. Service, quality and personal attention are at the core of the organization. Those values are translated in their completely renovated physical store with its unique tailor department to do free alterations, free coffee for their guests, the in-store restaurant, their bakery and their specialized sales staff. With this unique concept, CLOHTING provides the ultimate fashion experience.

As son of the founding fathers, Bryan, the current CEO of CLOTHING is ingrained with the DNA of the organization. The same goes for the other top management team members. Bryan's sons, John and Roger, joined the organization ten years ago and became part of the board soon after. Together with Bryan (CEO), John (CCO) and Roger (COO)[3] form the top management triangle of CLOTHING. The top management team structure could be described as rather flat. All TMT members have a strong operational focus and make decisions in consultation with each other. None of the TMT members has *"the primacy to simply push through"* (Bryan – CEO), limiting the hierarchical difference between the TMT members.

3.5 FINDINGS

3.5.1 Phase 1 – Building the Online Business Model (2010-2016)

In 2010, CLOTHING took the decision to introduce a web shop in addition to their physical store. The website was developed by an external party and the decision was made to further craft and develop the business model at a separate location, away from their physical store. With the focal firm governing the online business model, the process of online sales was crafted and reshaped throughout the years at the separate location. In 2016, they decided to integrate the created online business model back into the focal firm. Both the physical presence of the online team and the business model processes were integrated and brought back to the physical store of CLOTHING.

3.5.1.1 Triggers of different perceptions.

'Triggers of different perceptions' refers to differences of individual top managers that result in prioritizing different aspects and different perceptions of the environmental stimuli.

Individual differences. The CCO was the youngest member of the top management team. After working for different companies in the retail industry, he joined CLOTHING in 2009. Throughout his experience in the industry, he had been working on projects related to the future impact of e-commerce in the retail industry in the Netherlands. This experience taught him what online sales entailed and led him to realize the possible impact it could have for CLOTHING.

[3] Bryan (CEO), John (CCO) and Roger (COO) are aliases to ensure the anonymity of the respondents

Hence, in 2010, he came to the conviction that it was time for CLOTHING to introduce an online business model.

> *"I have always been thinking about that theme [e-commerce] …. I thought the time was right to make the step online for CLOTHING" (John – CCO)*

The COO, stemming from the same generation, had the same perception. Because the millennials were brought up with fast technological change, they were used to and hence stood open for those developments. The CEO, who almost differed 30 years in age, perceived the online developments differently. Because of the generational difference, only later in his life started the technological change to take off, leading him to be less familiar with such environmental turbulence. Moreover, the cognitive framework he developed throughout his years of functional experience within the physical, highly service oriented, store of CLOTHING did not fit with the concept of online shopping. For these reasons, the CEO perceived the online developments differently and was against the initiative to introduce an online business model.

> *"The feeling of the established order was that clothes are an emotional product that you have to see, that you have to feel, that you have to fit, that it was not going to be sold online. Yes, and so [the CEO's] generation also had that conviction" (John – CCO)*

Prioritization differences. Stemming from the individual differences, the top managers prioritized different aspects. For the younger managers this meant focusing on new business while for the older manager this meant strengthening the existing business model. The CCO and COO were triggered by the online developments in the industry because they only recently joined the organization, making them less bounded to the established processes of the physical store. The CEO, on the other hand, was long tenured in the organization. Because the organization became successful by emphasizing personal service in their extant business model, the CEO prioritized strengthening the physical store rather than investing in a new business model, especially because in his opinion e-commerce was incompatible with the power of their physical store.

> *"Because of course it is contradictory to the power of physical shopping, isn't it? You can of course provide personal attention and service to the customer, face-to-face, in your physical store, that is completely different in the field of e-commerce" (Bryan – CEO)*

Prioritizing different aspects influenced the perceptions of each individual. Namely, CEO's prioritization of the physical store led him to reflect the new stimulus to that frame of reference. This consequently resulted in the perception that e-commerce was incompatible with their physical store's success factors. This perception led him to argue against the introduction of an online business model.

3.5.1.2 Purposeful friction

Purposeful friction refers to the process of discussing conflicting perceptions of individual top managers in the team with the aim to shape and enhance the perceptions of individuals towards the company wide goals. By addressing a strategic idea from various perspectives and frequently discussing it in the top management team, purposeful friction enables the improvement of initial ideas. Hence, purposeful friction is an interpersonal mechanism that enables the reinforcement of individual's capabilities within the team.

Frequent informal interaction. When, in 2010, the CCO came to the conviction that it was time for CLOTHING to introduce an online business model, he proposed this idea in the top management team. During this interactive moment, each top manager perceived the idea individually based on their own cognitive framework (Helfat & Peteraf, 2015). The opposing perceptions of the individual top managers, stemming from their individual and prioritization differences, were triggers of friction in the top management team. Namely, by frequently interacting the top managers were able to put forward their conflicting perspectives.

The firm operated following an *"everything under one roof formula"* (Presentation). This meant that all operations as well as the offices were located at the same location. Being physically present at the same location facilitated frequent interaction between the top management team members. This resulted in almost daily interactions in which the idea was discussed. Not only was the idea discussed during meetings and at the office. Rather, the interactive moments often times took place in an informal setting such as during lunch. As the

CCO notes: "*And yes, then we talked very much about it. That is in meetings but that is also during lunch*". These frequent informal interactive moments created an environment in which the barriers to share conflicting perspectives were mitigated. Namely, the managers reported a feeling of trust in which they felt supported to bring their perspective to the table.

> *"We certainly do not have a formal meeting culture, but you have to put your heads together. But that's also possible a little ad hoc in the corridors." (Bryan – CEO)*

Top managerial discussion. The interaction between the top management team members created a setting in which the perspectives of individuals could be discussed. As the perspectives were opposing, this created friction. The CEO, who perceived e-commerce as contradictory to the power of their physical store and therefore not supported the initiative, offered much resistance. This resistance presented itself in the form of counterarguments in which he formulated why sticking to the core competencies of their business, which had led to success over the years, would be better. The CEO believed this would allow the firm to further leverage their key competencies namely, service, quality and personal attention. Online, he argued, this would be almost impossible. Moreover, the CEO offered resistance because he was being reserved for the resources that would have to be invested in developing the online business model.

> *"When the idea came up, first of all, I offered benevolent resistance. Maybe also from a kind of fear of the new. But also, being reserved for the work that it entails. And yes, we've all seen that it doesn't bring any golden mountains, at least not directly. I think it was also a justified resistance" (Bryan – CEO)*

The CCO, on the other hand, was so convinced about the importance of introducing an online business model for CLOTHING that he persistently formulated why it was important to make the step online. He believed it to be the future of retail and that therefore CLOTHING had to make the step online in order to adapt to the changing circumstances. The persistence of both the CCO and COO were important to move the discussion forward. As the CEO notes: *"The younger generation had to be quite persistent and tenacious in order to finally get through"*. While the managers reported persistence to be an important means to move the discussion forward, they also reported it to be important that this was done on the basis of arguments.

Whereas resistance on the one hand and persistence on the other were sources of friction, supporting the perspectives with substantiated arguments helped the managers to move beyond the cognitive friction. Namely, the arguments helped the top managers to better understand the perspectives of their team members.

> *"It is only important that it is done on the basis of arguments and that we thoroughly evaluate it before a decision is made" (Bryan – CEO)*

Embracing friction. The friction that originates from the conflicting perspectives of individual top managers, was embraced by the top management team. Namely, each top manager reported that discussing the opposing perceptions of individuals helped them to critically view the online initiative from various perspectives, eventually leading to an improvement of the original idea. The perception of friction as healthy was important for the group dynamics as it helped the managers to embrace discussion rather than being offended by it. Moreover, by embracing friction, a situation is created in which each top manager is able to freely share his perspective. Being heard before the decision was made eventually led to a stronger support of the subsequent decision.

> *"Between the directors, a healthy field of tension may arise. From which I think only better things can be born". (Bryan – CEO)*

Because all team members perceived frictions as healthy, the process of informal interaction within the top management team in which various perspectives were brought to the fore, allowed for better sensemaking at the team level. As a result of the frequent interactions, the CEO's perception started to change. Namely, being confronted frequently with the perspectives of his fellow TMT members helped him to understand different points of view. By frequently reflecting on the idea to introduce an online business model during these discussions, the CEO started to realize that e-commerce was an important trend in the retail industry. This perceptual change led to an alteration of the CEO's opinion and he became convinced that introducing an online business model would be a good step for clothing.

> *"Well, I think it is very important that you do not throw away the child with the bath water, that you also have a little respect for what has been achieved. And that you say a little bit 'research everything and keep the good'. And yes, we also had*

> *that development with e-commerce. That is a very good example of that. Of something that throws things in a completely different direction and where you finally made a 180-degree turn because in the end it was the best choice" (Bryan – CEO)*

This process indicates that individual perceptions were altered by having team level interaction in which different perspectives were discussed. It also shows that team level capabilities enhanced the individual level capabilities, and by having these mechanisms in place, the team moved beyond the cognitive boundaries of individuals.

3.5.1.3 Collaborative value-driven decision making

Top managerial collaboration. During the initial sensing phase, the opposing perceptions of the individual top managers have been brought together. As a result of purposeful friction these perceptions have been altered, allowing the team to move beyond the cognitive boundaries of individual managers. However, the individual perceptions were not yet completely aligned. Although the CEO acknowledged the importance of e-commerce, he still prioritized the extant offline business model. The CCO on the other hand, so strongly believed that e-commerce would be the upcoming trend in the industry that he prioritized the new business model. The COO took a more neutral position. While he believed the online business model to be a good step for CLOTHING, he also acknowledged the importance of their physical store. In order to move forward and seize the identified opportunity, the top managers compromised in their decision. This means that there was made a decision which was not completely in line with the thoughts of one individual. Rather, the decision constituted of a combination of perspectives. Namely, the decision was made to introduce the online business model as an extension of their physical store. This way the firm could build further on the strengths of the offline business model, in line with the CEO's perspective, while capitalizing on the new trend in the industry, in line with the CCO's perspective. The neutral position of the COO led also him to support this decision.

The frequent discussions enabled the team members to freely share their perspective on the idea. Not only was this process important to enhance the sensing capabilities of the team by combining and shaping the perspectives of individuals, it also helped to create a feeling of being heard. This was important as this feeling resulted in a stronger support of subsequent decisions. Moreover, the flat hierarchy in the team allowed for collaborative decision making because not did one manager had the primacy to push his perspective through without consulting his team members.

> *"But it is always giving and taking a little, in every relationship, that also applies within a company, that applies within different departments. You still have to do it all together ... In the field of e-commerce, I had to compromise, I had to make concessions" (Bryan – CEO)*

Value driven decision making. Five years prior to the business model innovation decision, the company's core values were explicitly codified. By collaborating with a third party specialized in defining a company's DNA, the firm extensively thought about what defined them as an organization. During this process they came up with five core values which are: "customer focus, professionality, collaboration, results-oriented, and passion" (Presentation). The codification of the core values was important as it guided the top management team in further decision making. Namely, all decisions that are made have to be in line with the core values of the organization.

> *"Those values and what we stand for. Yes, they are so well anchored that you automatically put those things along the rod of the [CLOTHING] values. And that is why I think it will not go wrong so fast". (John – CCO)*

These core values formed a red thread through the decision-making process which was crucial for the alignment of the opposing perspectives. Collectively, the team considered whether the online business model would contribute to strengthening the core values. This helped them to further refine their ideas and agree that the online business model should be introduced as an extension of their physical store as it would allow them to further stimulate the customer focus. The online channel would facilitate their existing customers because they could now order from home without coming to the physical store.

> *"The combination [of online and offline], that is the original idea has been just like alright, e-commerce is "new business", is a new reality, you can't ignore that, you have to play that game if you respect yourself as a company. And it is actually an extension of the service that we offer in the store to the customer, that hasn't*

> *changed. Since [we] started here in 1950, personal attention and unique service have always been paramount. Those have still been the most important elements for success. And you should actually see e-commerce as follows; you also want to give your own customers the opportunity to be able to shop 24/7 with an ipad on their lap, you want to give them that possibility." (Bryan – CEO)*

3.5.1.4 Experimental implementation

Experimental decision making. The decision making was a two-stage process in which the firm first decided to introduce an online business model as an extension of the service they offered in store, and then started experimenting. Experimentation was used to test the first decision. When the firm started experimenting, they learned what the online business model entailed and the way in which they were able to translate their core values into the online business model. Besides, they gained a better understanding of the resource investments needed to develop the online business model. Based on the advanced insights, a second decision was made to continue or not with the online business model. During this process the TMT recognized the potential of the online business model and made the decision to invest in its further development.

> *"When you start, you don't know how it will turn out. And when you see that it has a promising future, then you continue to invest in it, then you expand it, then you make it bigger" (Bryan – CEO).*

Furthermore, the experimentation process was used to further convince the CEO of the importance of e-commerce. Even though his perception of the phenomenon changed strongly as a result of the top managerial interaction, he was not yet completely convinced. Therefore, the CCO and COO used the experiment to prove its potential to the CEO.

> *"At some point it was also being decisive. So, even though not everyone believes it completely, just do it ... The decision was then already a kind of decision that at least experimentation will take place. But that experiment is to support, or not, the idea". (John – CCO)*

In order to successfully capture the insights during the experimentation process, the top management team was closely involved. The CCO, who initiated the online business model, was personally involved and responsible for the experimentation. By conducting all operational tasks himself, he gained a good understanding of what the online business model entailed. Understanding the dynamics of the new business model in great detail helped him to further craft the business model in line with the core values of the organization.

> *"It is about yes, first do it yourself. [The CCO] initially picked the orders himself, folded boxes. Yes, just try first. You have to prove it yourself and yes, like a start-up starts, you have to try and experiment, you have to mix the cocktail yourself, so to speak" (Roger – COO)*

Moreover, having close top managerial involvement was important as it minimized the information flows. During the frequent interactions between the top managers the developments could easily be discussed. This helped them to quickly make adjustments to the business model. Another important advantage of having close top managerial involvement was the fact that the CCO had in-depth knowledge of the extant business model. This was important because, first, understanding the dynamics of both business models helped him to align them more easily and second, it helped him to identify complementarities between the two business models. Namely, as the orders started to grow, they learned that it was difficult to predict which products were going to sell best online. Because they could not estimate this correctly, they experienced stock problems because they purchased too much or too little of certain items. Given the close involvement, the top management team was able to immediately act upon this insight and adjusted the model. Since the physical store had over 200,000 available items, they came to the conviction that it would be better to use the stock of the physical store online. This would solve the stock issues of the online store and allow them to leverage the size of their physical store online. Hence, the decision was made to integrate the online business model into the focal firm. This way, they were able to leverage complementarities and consequently, strengthen both business models.

> *"We soon discovered that purchase decisions for a customer that you actually don't know online, that comes from everywhere, that it is actually very difficult. So, then you quickly get stuck with that stock. So, we immediately adapted that model, that is test and learn" (Roger – COO)*

Conservative resource allocation. In order to be able to divide the decision process into a two-stage process which includes experimentation, they started with limited resources. As the CEO notes: "we carefully embedded it, we did not immediately start with large budgets". This was important as it allowed the firm to stop with the initiative in case it turned out not to be as promising as they hoped without being forced to continue because there were big investments at stake. Starting with limited resource investments further enables experimentation for the same reasons. Making limited investments simplified the decision to adjust the model as there was no big financial burden making them path dependent.

3.5.2 Phase 2 – Leveraging Complementarities (2016-2019)

The identification of complementarities between the offline and online business models led to the decision to integrate the online business model into the focal firm. In this phase, the business model has been further developed and new value creating activities have been introduced to further strengthen the complementarities. For instance, the personal shopping concept, which includes shopping-by-appointment and the tailor-made fashion box, is a new value creating concept that aims at strengthening the complementarities of online and offline by combining the two channels.

3.5.2.1 Triggers of different perceptions

Individual differences. The CCO who started e-commerce himself is still responsible for the online department. In order to establish a good competitive position, in the online department they are constantly looking for innovative ways to distinguish themselves from their competitors. Still being closely involved in this department helped the CCO to identify the personal shopping concept as a new value creating activity. The COO, who was responsible for the physical store, did not directly see the added value for his functional department. This indicates that because of the functional division of tasks, each individual top manager perceived this concept differently. Moreover, generational differences kept influencing the perceptions of the individuals in further projects. Namely, the CEO was still reserved for the implementation of new innovative initiatives as he perceived them as rather disruptive for the physical store. The combination of functional and generational differences led to friction in the TMT members perspectives regarding the novel proposed initiatives.

> *"But those are areas of friction. In that sense, there will also be others, certainly from the older generation and also people who have more affinity with the daily happenings of the physical store, they are more likely to say yes, but that is so difficult to implement, and they just weaken that a little" (Bryan – CEO)*

Prioritization differences. Given the prioritization differences described earlier, the novel personal shopping initiatives were perceived differently. Namely, the COO and CEO, who strongly focused on the customer of the physical store kept prioritizing the offline business model and therefore believed that the personal shopping concept, which brought together online and offline, would not strengthen the customer focus in the physical store.

> *"Yes .. so as management of such a hybrid construction in such a company, you just have to make sure that you set your own priorities. It cannot be that you are only busy with digital or e-commerce because then the focus is not entirely on where it should be" (Bryan – CEO)*

The CCO on the other hand, laid more emphasis on the improvements of operational processes and believed the personal shopping concept to be contributing to the complementarity advantages of combining both business models. As the COO reported "*The CCO always focuses on innovation"*. These differences of prioritization again led to different perspectives in this stage of the business model development. By prioritizing different aspects of the business, each individual top manager developed his own perspective on the personal shopping initiative.

3.5.2.2 Purposeful friction

Frequent informal interaction. To further leverage the complementarities, various ideas came up, mainly via the online department for which the CCO was responsible. To keep the pace in decision making, not all ideas were discussed in the management team. Rather, only the strategic and tactical decisions are discussed by the TMT. Smaller operational choices and adjustments are made by the TMT members individually in their departments.

> *"Yes, those limits that are ... yes, they are certainly there, but they are not explicitly defined either. But it is more if you feel that they are just strategic choices than you always put it in the MT. And maybe tactical too. Operational not." (John – CCO)*

The personal shopping concept, which was a strategic initiative to strengthen the complementarities between the online and offline business model, was proposed in the TMT. Rather than planning formal meetings to discuss the topic, managers discussed the concept informally. The topic was brought up during lunches, and ad hoc when managers had questions or doubts. When specifically asked for the way in which they discussed the personal shopping initiative, the CCO said:

> *"Yes, not only formally. We work here anyway in a not so formal environment, so that usually goes a bit informally in the corridors. And yes then we talked very much about it and yes, that is in meetings but that is also at the kitchen table" (John – CCO)*

Top managerial discussion. The perceptions of the TMT members were more aligned during this stage as all managers supported the initiative to integrate the online business model into the focal firm in order to leverage complementarities. As the dispersion of perceptions was less diverse than during the initial BMI stage, less resistance was offered against the proposed initiatives. Nevertheless, the culture within the team makes that all initiatives are challenged in order to critically illuminate it from various perspectives. When the CCO proposed the personal shopping concept, the CEO was reserved and advocated against it. This resistance stemmed from the CEO's perception that the new initiative might affect the physical store.

> *"Sometimes there is a difference of opinion about, for example, the impact that personal shopping has on the entire business. (...), then I would rather say, well, we slowdown that a bit and he says that it should be given free rein, that we need to develop and profile that even more" (Bryan – CEO)*

In order to move the discussion forward, again, the CCO had to substantiate why he believed that it was a good decision. By calculating the impact, eventually the CEO's perception changed what led him to support the personal shopping initiative.

> *"And there is also then, yes that [concept of personal shopping] is then discussed. And then you hear yes, is that really necessary? And that usually happens because in this case also often because I am convinced and then come up with a substantiation of what it can do and how we can earn it back" (John – CCO)*

Embracing friction. As described before, the top management team members perceive friction as healthy, allowing them to shape and improve their perceptions, subsequently leading to improved ideas. As the COO notes: *"They do not hide their opinion. That does cause some friction from time to time but yes, without friction there is no shine."*. This is supported by the CEO who says: *"Yes, it is always, there will always be the tension, I think. But yes, without friction no shine"*.

The positive perception, which they refer to as "without friction, no shine" constitutes an important team level mechanism that helps the top management team to combine individual level capabilities in the team. While individual managers can be bound to myopia based on their own cognitive limitations, the combination of various perspectives helps them to overcome this pitfall. As a result of the interaction, individuals broaden their view and their perceptions change as a result of those iterations.

> *"Because yes, sometimes that discussion also provides different insights, as a result of which the original idea is adjusted or improved and implemented in a slightly different form". (John – CCO)*

Thus, discussions at the team level in which all TMT members shared their opinions about new initiatives has helped them to alter their individual cognitive frameworks, subsequently leading to the adjustment of the original idea. Hence, the team level friction helped them to enhance their individual level sensing capabilities leading to better ideas as a team.

3.5.2.3 Collaborative value-driven decision making

Top managerial collaboration. Also in this phase, the team members compromised in order to make decisions and by doing this, they moved from the sensing into the seizing stage. Whereas this process was rather extensive in the business model design phase, it was speeded up for the decisions that were made in order to leverage complementarities. For instance, not all managers were keen on supporting the personal shopping initiative. However, the fact that less resources had to be invested in order to test the initiative and the fact that the initial impact on the organization was smaller, the individuals were sooner inclined to assent. This indicates that compromising in decision making still occurred, but the impact of decisions influenced the speed in which the perspectives could be brought together.

> *"I also think that that is part of life and also of entrepreneurship and leadership. Give and take, you get much further with that. And once in a while one has to compromise, the other time the other ... so far we have always come out without a real vote or something" (Roger – COO)*

Value driven decision making. The organization's core values were paramount in the further development of the new business model. As the decision was made to introduce the online business model as an extension of their physical store, key in the further development of the online business model was the translation of the core values into new initiatives. More precisely, all ideas were reflected against the core values in order to determine their relevance for further integrating both channels and hence leverage the complementarity advantages.

> *"That idea [personal shopping] actually came about because of course our added value is mainly in the service you get on the floor, so really the personal shopping feeling. Yes, our added value lies primarily in the added value that employees deliver on the floor. And by definition you don't have that online. So, this [shopping-by-appointment] is a nice crossover between the two channels" (John – CCO)*

The importance of the core value in new initiatives offered managers clear guidance in the decision-making process. Namely, it allowed the top managers to assess initiatives easily based on some clear standards. The fact that all TMT members were well aware of these core values further helped them to quickly bring together divergent perspectives in the seizing phase.

> *"In our case at least it is true that for all important matters, yes, we have the same ideas about the direction of the company, we are really all on the same page." (Roger – COO)*

3.5.2.4 Experimental implementation

Experimental decision making. Even though the decisions with the aim to stimulate complementarities between the online and offline business model were smaller than the initial BMI decision, a similar process took place. When the TMT decides to introduce a new initiative, they always start experimenting. The experiment is used to test the decision and subsequently leads to the decision to further develop the initiative or to stop.

> *"Depending on the state of the experiment, it is then scaled up or scaled down. Or yes, expanded or scaled down. We are then already executing it" (John – CCO)*

When the first results of the experiment look promising and the decision is made to further develop it, as was the case with the personal shopping initiative, they keep experimenting in order to constantly make improvements. This is important because it helps them to further concentrate their efforts on exploiting the complementarity advantages of operating with a hybrid business model.

> *"It's just trying out to explore how it works … from advanced insights into how we can best tackle this? How can we use this as a service to our customers? How can we facilitate them? how can we inform them?" (Bryan – CEO)*

The top management team led these experimentation processes. This was important as it helped them to make quick decisions and to quickly communicate the developments to their team members. As the CEO notes: *"Just continue to develop and yes, take lessons learned into the process. That is, of course, always staying close to it, staying really close to it, and ensuring that everything is alright"*.

Besides improving their processes, experimentation is an important means to sense new developments in the industry. By being involved in innovative projects, the firm was able to test certain industry developments themselves in order to understand their possible value to the firm. For instance, the COO stumbled upon interactive mirrors as a new development in the industry which he believed could contribute to the further alignment of their online and offline business model. Rather than deciding whether or not to adopt this technological development up front, experimentation was used to be able to better interpret its possible value for the organization.

> *"So we keep, we continue to get involved in innovative projects. We do not turn our back on that … These are all new concepts that you can either say "yes, just let the others try and fail" or you can test them yourself. We like to do tests ourselves" (Roger – COO)*

Being closely involved in this kind of innovative projects constitutes an important sensing capability of the organization. By experimenting with new developments, the firm is better able to form a well-informed interpretation of the value of these new initiatives. Because the top management team members are personally involved, this leads to the re-initiation of the process. Namely, the involved manager senses an opportunity for the organization which he then shares within the top management team. Our data indicates that with all opportunities that are either strategic or tactical, the cycle of interpersonal interaction is repeated.

Conservative resource allocation. To make this a viable decision-making process, the experiment always starts with primitive means. This means that they not immediately invest heavily but test the idea in a primitive manner. For instance, the tailor-made fashion box was initially set up very basic: *"Well we also have such a concept that we send fashion boxes to customers. But we have set that up very basic."* (Middle Manager). This allowed them to test this concept without allocating strategic resources to it.

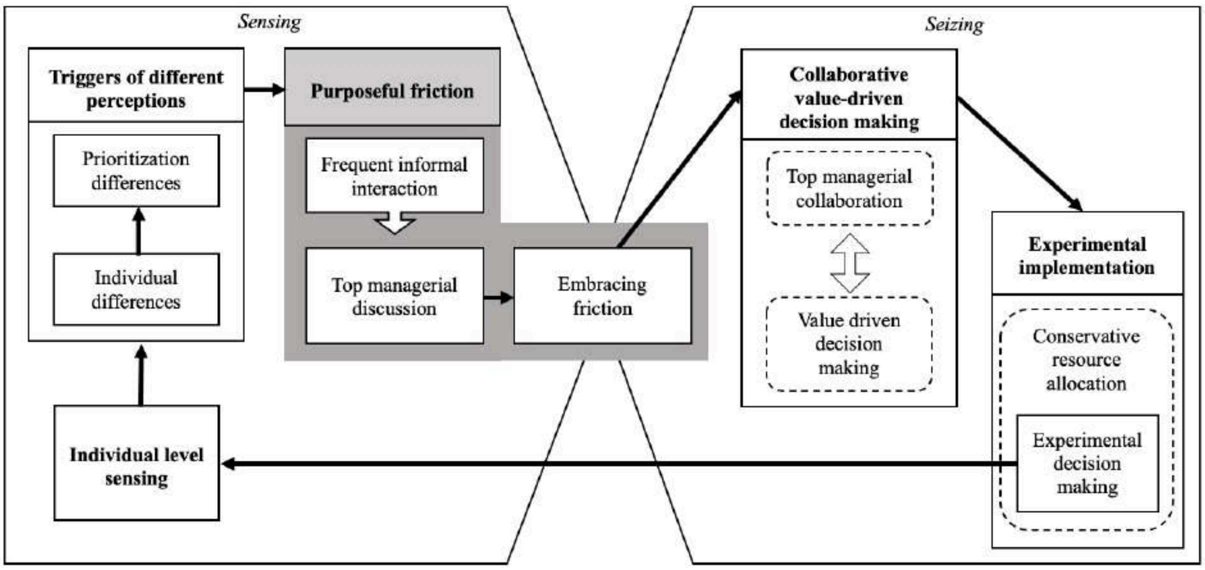
Furthermore, this approach allows the organization to engage in experimentation frequently, helping them to look for ways in which they can strengthen the complementarities between the two business models. This also keeps the speed in the organization which is crucial for the timely adaptation of the business model in times of constant change:

> *"I always say when you write it out completely, then you are already too late. You better just start sometime. We always say start with primitive means. And then just look if we want to invest more in it, and if so, then we just have to invest money in it, hoping that it comes back. And that will indeed remain, you win some you lose some. But just start small with the resources at your disposal. And unite the forces and then try to actually insert the thermometer there and, yes, just watch if we have to continue or stop" (Roger – COO)*

3.6 DISCUSSION

So far, we have described how the top management team of CLOTHING combined the dynamic managerial capabilities of its individual top managers in the team in the process of business model innovation. Combining these insights with the current literature resulted in the process model that is depicted in Figure 3.2. As shown in the process model, CLOTHING's top managers first scanned the business environment individually. Based on their cognitive frames they made sense of the environmental stimuli and interpreted them individually. The individual top manager then proposed his perspective in the top management team. The other TMT members interpreted the idea individually based on their personal cognitive frames. Through frequent informal interaction the different, and sometimes conflicting, perspectives were discussed what resulted in cognitive friction within the team. This friction was embraced by the team members because they believed that this would lead to the improvement of initial ideas, and eventually better decisions for the organization. The positive perception of friction helped them to adjust and modify the proposed initiative as well as the perceptions of each individual. By assessing the transformed initiative along the lines of the company's core values, the TMT then made the decision to start experimenting with the business model innovation. Experimentation was part of the two-stage decision-making process and helped the team in two ways: (1) to validate the decision and (2) to refine and shape the original idea. Having close involvement of an individual top manager in the experimentation process ensured short communication lines what allowed the TMT to make fast changes and adjustments. Namely, the involved TMT members could communicate directly to the other TMT members, and the team was able to immediately act upon those insights. Moreover, as the TMT stayed closely involved, the cycle repeated itself because the involved individual top manager was able to identify new environmental stimuli related to his area of attention. We depict the grounded process model that emerged from our analysis in Figure 3.2.

Figure 3.2 Process model of combining DMC in the process of BMI



3.6.1 Theoretical implications

On a more theoretical level, our model proposes "purposeful friction" and "collaborative value-driven decision making" as two mechanisms that together help to combine and shape individual's cognition in a team. By identifying these interpersonal mechanisms, we open the black box of how individual's dynamic managerial capabilities combine within the team.

Dynamic managerial sensing capabilities. Sensing new opportunities "is very much a scanning, creation, learning, and interpretive activity" (Teece, 2007: 1322). At CLOTHING we observed that the scanning activities are conducted by individual top managers. In line with what prior studies suggests, our findings indicate that individual top managers use their human and social capital to scan the business environment (Adner & Helfat, 2003). Our findings suggest that the functional division of tasks is an important structural component that allows for the enhancement of individual cognition within the team. This functional division makes that each individual manager is closely involved, and therefore knowledgeable of, the operational activities within his department. Both the human capital (shaped by the experience within the department) and social capital (which are the relations with the employees in the department and the network in which the department operates) of the top managers are influenced by this structural decision and will hence influence the way in which managers interpret new initiatives. Because functional experience shapes the cognitive frames of individuals (Hambrick & Mason, 1984; Helfat & Peteraf, 2015), each individual top manager is biased in his perception of a given situation. For instance, the CCO is responsible for the online business model. His social relations, both inside and outside the firm, are mainly linked to the online business. By having those relations, he is best informed about the developments within the field of online. Hence, the initiatives he proposes are mainly closely linked with the online business model. This indicates the cognitive biases of the individual top managers.

Purposeful friction represents an interpersonal mechanism that allows the TMT to move beyond the cognitive limitations of individual top managers. Given that cognitive capabilities for attention and perception are distributed heterogeneously among individuals (Helfat & Peteraf, 2015), bringing together different perspectives enhances the team level sensing capabilities. Our empirical insights show that through frequent informal interaction in which the idea is viewed from various perspectives, individuals are capable of moving beyond their cognitive boundaries which leads to an improvement of the original idea. This insight is in line with what Zollo and Winter (2002: 341) called “constructive confrontations”, which they argued to be a fundamental mechanism for the development of collective competence. As typified in the opening quote, if you want a gemstone to be shiny you smoothen it and polish it by way of friction, removing the parts that are unwanted. In a similar vein, cognitive friction provides a pathway to improve the interpretations of individuals, leading to better informed strategic decisions.

Prior research has suggested that cognitive friction only occurs when there is enough cognitive distance between individuals (Hagel & Brown, 2005; Hautala, 2011). While our study confirms cognitive distance to be important for cognitive friction, it provides deeper understanding of how top managers can purposefully create cognitive distance by dividing the functional responsibility of top managers across departments. Structurally dividing responsibilities will influence the underlying managerial resources of individual top managers and hence provide different perspectives in discussions.

Our study also contributes to new insights on capability development for strategic renewal. Prior research suggests that external sources of capability development may help unfreeze mental maps, structures and processes compared to the more exploitative internally developed capabilities (Singh & Mitchell, 2005). Scholars suggest that when capabilities are developed internally, managers tend to seek exploitative activities to avoid internal conflict (Capron & Mitchell, 2009; Singh & Mitchell, 2005). By introducing the notion of purposeful friction, our findings reveal an interpersonal mechanism in which managers purposefully seek friction which allows the top management team to overcome this social constraint. By purposefully creating friction rather than avoiding it, CLOTHING was able to internally develop the capabilities needed to engage in business model innovation.

Prior studies have also shown that dynamic managerial capabilities often rely on stable underpinnings that enable practiced and patterned behavior (Adner & Helfat, 2003; Helfat & Martin, 2015; Schilke et al., 2018). Our process model shows that purposeful friction is an interpersonal mechanism that has been present throughout the entire period of study. For instance, when the CCO came up with the idea to innovate the business model, this was extensively discussed in the TMT. When he later proposed the idea to introduce the concept of personal shopping, this was again proposed in the top management team. In both instances, the original idea was shaped in this process and implemented in a modified manner. The routinized nature of *purposeful friction* in interpreting strategic ideas within CLOTHING makes it an important dynamic capability. Therefore, our study offers an important contribution to the dynamic capability literature (Augier & Teece, 2009; Salvato & Vassolo, 2018). Furthermore, we identify a relevant boundary condition for *purposeful friction* to be productive (Hagel & Brown, 2005). Namely, our findings suggest that purposeful friction is an essential interpersonal mechanism when the issue to be addressed is considered strategic. By identifying strategic issues as a boundary condition for productive friction, we complement prior research on the ingredients of productive friction in teams (Hagel & Brown, 2005).

A final note in our model is that with *purposeful friction* we refer to the friction of the perceptions of individual top managers i.e., cognitive friction (Hautala, 2011). Our model shows that cognitive friction becomes effective when there is harmony between the team members and other frictions such as knowledge stickiness (Szulanski, 1996) and power inequality (Greve, Baum, Mitsuhashi, & Rowley, 2010) are mitigated.

The bridge between sensing and seizing capabilities. Prior research has remained silent on the bridge between the procedural levels sensing and seizing (Roberts & Grover, 2012; Schilke et al., 2018). Our process model shows that the fact that the TMT members perceive friction as healthy allows them to move beyond opposing believes and combine their perspectives to seize the identified opportunities. “Without friction, no shine” as the top managers of CLOTHING described it, is an important part of the model that bridges sensing and seizing capabilities. Scholars have shown that information does not flow effectively between parties when either the sender or receiver has a lack of motivation to send or absorb information (Ghosh & Rosenkopf, 2015; Szulanski, 1996). In a similar vein, our findings indicate because of the willingness to hear and share different perspectives, information flows fluently, even when perspectives are conflicting. Because of the fluent information flow and hence the richness of information available, collective perceptions can be shaped. Moreover, being motivated to send and receive information about different perspectives led to alterations in the perceptions of individuals. This process constitutes the bridge that allowed the team to move from individual interpretations to a collective decision. Therefore, our model provides an important contribution to the dynamic capability literature by unraveling the mechanism that bridges managerial sensing and seizing capabilities (Roberts & Grover, 2012; Schilke et al., 2018).

Dynamic managerial seizing capabilities. Managers have to seize the identified opportunities in order to be able to capitalize on them. Designing business model innovation is a crucial dynamic managerial seizing capability (Teece, 2007).

Compromising in decision making constitutes a key value in the top management team of CLOTHING. This allowed the top management team members to move from discussing opposing perspectives to making decisions, even if not all managers completely agreed. Our study shows how consensus in decision making is an effective means to move from discussions towards collaborative decisions. What is more, our findings reveal that if there is no consensus, majority decision making can act as a substitute in triadic top management teams.

Our findings contribute to prior research in at least two ways. First, we build on prior research that has shown that power inequality can be an important source of social friction (Greve et al., 2010). We complement this view by highlighting how equally distributing the decision-making power over the top management team members helps to mitigate the social friction that can derive from power inequality. What is more, prior research has shown that triadic relations can enforce shared norms and behavior and therefore serve as a social constraint that lead members to act in accordance with each other’s expectations and to expect the same from the other members (Krackhardt, 1998, 1999). Also, having three parties involved means that the third party can act as mediator in times of conflict (Greve et al., 2010). Our study complements the notion of triadic relations by revealing how they act as a means to move beyond discussions towards collaborative decisions. Taken together, our findings reveal that triadic relationships in the top management team where the decision-making power is equally distributed among the individuals can be an important condition for team dynamic managerial seizing capabilities.

Our model also suggests that having well established core values guides the top management team in the decision-making process. Having a shared understanding of the direction of the organization helps the top management team to bring together the perspectives of individuals in the decision-making process. Prior research has shown that conflicting perspectives could be a source of novelty when individuals agree on the mainline of a project but have different interpretations of how to achieve this (Hautala, 2011). Our study acknowledges this insight and expands it by showing how having well defined values in the organization can create this mainline. The values that are explicitly defined in the organization constitute a red thread throughout both the sensing and seizing phase. Because each manager has a shared understanding of what the organization stands for, the *purpose* in the purposeful friction process is clear. Moreover, when making decisions, all managers agree that the decision should contribute to the traditional values of the organization. This provides common ground in the decision-making process and helps the top management team to make a collective decision.

As shown in our process model, at CLOTHING the BMI design was not a one moment in time, static decision. Rather, it is a process in which the BMI design is crafted. First collectively the decision was taken to experiment with the business model innovation along the lines of the company's core values. While the direction was set, the definite decision was not yet made. Based on advanced insights the TMT decided whether or not to continue. Moreover, the BMI design was shaped and adjusted by having close TMT involvement in the experimental implementation phase. Gavetti and Levinthal (2000) in their study on cognitive and experiential search found that cognitive representations provide a powerful suggestion for the initial choice of experimentation. Especially in times of change, the cognitive representations of managers that are formed by their prior experience help managers to make better initial experimentation decisions. Moreover, experiential learning allows managers to shift cognitions which also increases relative performance. Taken together, this suggests that managers should rely on their cognitive representations in making the choice about how to experiment. Then, they should allow experimentation to result in cognitive shifts, leading to performance enhancement in times of change (Gavetti & Levinthal, 2000). While our study supports this, we move beyond this insight and show how interaction at the TMT level leads to the refinement of cognitive representations before the experiential search decision is made. This is important as it leads to an improved decision about the experimentation. Our findings suggest that because of *purposeful friction*, top management teams are able to make performance enhancing experimentation decisions in times of change. Hence, we show that combining top managerial cognitions by ways of purposeful friction is a team level dynamic managerial sensing capability that subsequently strengthens the dynamic managerial seizing process.

3.6.2 Managerial implications

Our findings have important implications for managerial practice. Our study provides new insights into how top management teams may combine the dynamic managerial capabilities of individual top managers, enhance these capabilities within the team, and successfully innovate established business models. Our findings suggest that top managers should compose triadic top management teams consisting of top managers with diverse backgrounds and functional responsibilities. This will help the TMT to approach new ideas from various perspectives. Our findings may help top managers to embrace cognitive friction as it may be a fruitful process for better business model innovation choices. Equally distributing decision power among the top managers also constitutes an insight about the team structure that could help top managers to compose a top management team that is able to move beyond cognitive friction towards collaborative decisions. If CEOs, and decision makers alike, explicitly define core values, it will further allow them to have a team that is able to work towards the long-term goals of his organization, despite different interpretations about how to achieve those goals. Finally, our findings may help top managers to be closely involved in experimentation as we show how this could contribute to quickly detect opportunities and to shape BMI in line with the overarching company goals.

3.6.3 Limitations and future research lines

We studied how dynamic managerial capabilities combine in the process of business model innovation in the case of CLOTHING. While we believe our study provides valuable insights into how individual's dynamic managerial combine within a team, our study also has limitations that represents opportunities for future research.

The fact that it is a one-company case study raises questions about the generalizability of our model (Sigglekow, 2007). Future research is needed to test the applicability of our process model in other cases and contexts. The fact that CLOTHING is a family firm might influence the insights in our study. Family firms tend to be more inclined to overcome personal conflicts and focus more on the long-term viability of their firms (Gómez-Mejía et al., 2007; Greenhaus & Powell, 2006). In our study we explain underlying mechanisms of the interpersonal interaction in the BMI process of CLOTHING and we believe it to be an exemplary case for nonfamily firms. However, for TMTs of nonfamily firms, other forces, such as stakeholder pressure and agency conflicts, might be at play in this process. We therefore encourage scholars to explore the replication, extension and boundary conditions of our model (Smith & Besharov, 2019).

Another limitation of our study is that the results might be biased by the ex-post rationalization of top managers. While researching the role of top management in the process of business model innovation requires the use of historic data, as shown by other recent publications in the field (Frankenberger & Sauer, 2019; Velu & Stiles, 2013), we carefully applied good practices of qualitative research (described in the methods section) to mitigate the potential risk of ex-post rationalization. We see a promising future for ethnographic and more longitudinal studies on how top managers dynamic capabilities combine in the process of BMI and in broader organizational change processes.

Future research may further explore the potential performance effects of purposeful cognitive friction. Although CLOTHING has been rather successful, we need additional insights into the performance differences between the presence and absence of cognitive friction. Future research might provide additional insights into how specific dimensions and boundary conditions may impact the overall effectiveness of combining individuals' dynamic capabilities by the means of purposeful friction within the team.

We hope that our study inspires future work to continue exploring how top managers enhance the power of individuals within top management teams.

3.7 APPENDIX

Table 3.3 Data supporting the data structure

Triggers of different perceptions

Individual differences: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Generational differences of TMT members	"It is still a bit of that old and new perspective. After all, I am a little bit the old generation and the new generation will always have different opinions, prioritize other aspects" (Bryan – CEO). "When we started in 2010, the feeling of the established order was that clothes are an emotional product that you have to see, that you have to feel, that you have to fit, that it was not going to be sold online. Yes, and so the CEO's generation also had that conviction" (John – CCO)
Personality differences of TMT members	"It's also a matter of personality too. Because some people don't like to be in touch with the customers in the store, because you have to like that, it has to suit you too. And the other person who thinks well, I will take care of the business side, I facilitate and I do everything that is needed but for the rest I do not go with the hassle of that customer" (Bryan – CEO) "I am more of an emotional person than a real analyst. I am not someone who does a lot of desk research, I am more of the field" (Roger – COO)
Functional differences of TMT members	"[The CCO] is also doing a lot for the webshop because it is also his merit that he has been working on for the past ten years. So of course, he is also very focused on that" (Middle Manager) "I focus a lot of time on the store management and purchasing and [the CCO] is much more involved with internet, marketing" (Roger – COO)

Triggers of different perceptions

Prioritization differences: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Openness vs. closed to innovation	"I am more open than the previous generation to innovation" (Roger – COO) "When it comes to all kinds of other new things that we were talking about later, about RFID and about yes, those potential breaches of privacy or privacy issues, yes I am a bit more cautious and I tend to hold back." (Bryan – CEO)
Emphasis on extant vs. new business model	"Yes, the store that remains the most important, and I hope it stays that way for years to come" (Bryan – CEO) "So I think we all know that. That the core business will remain the store" (Roger – COO)
Customer vs. process focus	"That is the difference between the people who are more in the office managing the business and who have only indirect contact with customers versus the people in the store who have to solve it. So that will always be a difference of opinion within the management" (Bryan – CEO) "Yes, but for me that [using technological solutions to improve the process] is still a bridge too far. Because I think that you don't really need that to properly serve the store, people and customers in the store." (Bryan – CEO)

Purposeful friction

Frequent informal interaction: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Frequent interaction between the TMT members	"We have lunch every afternoon with everyone at home, that is also a sort of MT meeting, right, then we also have minor maintenance" (Roger – COO) "But we do indeed have small consultations almost daily" (Roger – COO)
Informal meeting culture	"Yes or there are conversations about it among ourselves informally, but that does not necessarily have to be through an official meeting in which it is determined in advance that we are going to vote about this or something" (John – CCO) "We certainly do not have a formal meeting culture" (Bryan – CEO)

Purposeful friction

Top managerial discussion: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Offer resistance against ideas	"And then you also always taste that resistance. Also, during the process in the case of online sales." (John – CCO) "We challenge everything and try to let everything pass through the TMT" (Roger – COO)
Persistence in convincing other TMT members	"[The CEO] told [the CCO} to "go ahead" because he kept on pushing with the idea of introducing a webshop" (field notes) "Yes, that is simply because the person who comes up with the idea perseveres and eventually gets the approval of: okay, go and do it and we'll see" (John – CCO)
Use sound arguments in discussions	"And they had to persuade me with sound arguments to make money available for that" (Bryan – CEO) "But yes, it must be overcome. Then you also have arguments, then you also get a supported opinion, a supported decision" (Bryan – CEO)

Purposeful friction

Embracing friction: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Perceiving friction as healthy	"Yes, it is always, there will always be the friction, I think. But yes, without friction no shine" (Bryan – CEO) "Interviewer: They say friction is healthy. Can you agree with that? CCO: Yes certainly. I can also agree with that, yes, without friction, there is no shine.
Perceptions change as result of friction	"And yes, I have had that feeling myself and got it more and more that, we have to move more into that direction" (Bryan – CEO) "So that has cost some alterations. But in the end, I think that everyone is now really convinced that it really is an addition to the store" (John – CCO)

Collaborative value-driven decision making

Top managerial collaboration: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Compromising in decision making	"Agreeing and making the decision in a good way indeed. Yes, so it is cooperation, the power of cooperation" (Bryan – CEO) More so: if you are so convinced then you can do it even though I still am not that convinced" (John – CCO)
Consultation in the TMT in decision making	"That there is as much support as possible, the familial. We are all behind it, including the propagating to our employees. It is nice if there, yes, no camps are formed" (Roger – COO) "So as a service to make it possible to shop at [CLOTHING] 24/7 with an ipad on your lap … Yes, in good consultation we have decided that together, yes." (Bryan – CEO)

Collaborative value-driven decision making

Value driven decision making: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
TMT members are ingrained with core values of the organization	"Of course, [the CEO] is pre-eminently someone who simply has the [CLOTHING] norms and values and vision" (Middle Manager) "And we all know, we have been brought up with that, it has been always emphasized, this physical company has something unique" (Roger – COO)
Translation of values into new initiatives	"We have such concepts as personal shopping where people can make an appointment online to come to the store or a fashion box that people get delivered at home if they order it online. Yes so that is, I think, an "up" on the website that you can show like these are qualities and talents that we have as a company" (Middle Manager) "In any case, we operate online using the same standards and values as in-store. So yes, we think that service is very important, and we do everything we can to deliver it as good as possible. That expresses itself more in, for instance, good customer service, the ease of good ordering, delivery options that you can also get it delivered in the evening and that you can indicate your preferences yourself … But it is something that we find important. So we also want to bring the values that we find important in the store to the best of our ability online" (John – CCO)

Experimental implementation

Experimental decision making: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Experimentation as multi-stage decision making process	"And at some point we say, yes okay we go and enter test phase 1, test phase 2, test phase 3. And at some point it is okay, it all looks really good, we are going to make it bigger" (Roger – COO) "When you start, you don't know how it will turn out. And when you see that it is a promising future, then you continue to invest in it, then you expand it, then you make it bigger" (Bryan – CEO)
Experimentation to convince others	"Just start. And everyone has something like that, yes, this is not nice and that is not good and are you sure we should do it like that? Just start, just start and they'll see" (Middle Manager)" "And then bam, there is a blow in the MT and then everyone stands behind it, or the majority. Nor does everyone always have to support it. And then we will roll it out" (Roger – COO)
Close TMT involvement in experimentation	"So yes, [the CCO] started it then and he has it, yes he has put his teeth in it and continued to develop and continued to focus on that" (Roger – COO) "Just continue to develop and yes, take lessons learned into the process. That is, of course, always staying close to it, staying really close to it, and ensuring that everything is right" (Bryan – CEO)
Try, learn and adapt	"No, not really a business plan was made no. Just, yes, think extensively about things but more just a sort of trial-and-error approach" (Roger – COO) "Because yes, building the site and connecting all those different systems there, we just got wiser by trial and error" (John – CCO)

Experimental implementation

Conservative resource allocation: Selected evidence on second-order theme	
First-order codes	Selected evidence on first-order codes
Start with primitive means	"These are then just small pilots without immediately investing too much" (John – CCO) "We always say start with primitive means" (Roger – COO)
Use resources at your disposal	"Because yes, with online marketing you can, if you open the tap far enough, you can grow as fast as you want. But yes, that should not cost too much money either" (John – CCO) "But just start small with the resources at your disposal" (Roger – COO)

Table 3.4 Temporal changes in second order themes over time

Second order themes	**Building the BM 2010 - 2016**	**Leveraging Complementarities 2016 - 2019**
Individual differences	Younger generation was in favor of BMI while older generation was against it	Older generation (CEO) and top managers with functional responsibility for physical store (CEO and COO) perceived new initiatives as not in line with core competencies of the firm while the CCO who was responsible for the online development perceived new initiatives as good for the firm.
Prioritization differences	Younger generation with shorter tenure at CLOTHING advocated for the new business while the long tenured CEO of the older generation emphasized the extant BM.	TMT members with responsibilities for the physical store (CEO and COO) prioritized extant BM while TMT member with responsibility for online (CCO) prioritized online BM.
Frequent informal interaction	Small consultations because of “all under one roof formula” and during lunch	Small consultations because of “all under one roof formula” and during lunch
Top managerial discussion	CEO offered resistance against web shop, CCO persevered and used arguments to convince him	Managers offer resistance to protect the BM they prioritize, manager who comes up with the initiative supports the idea with calculations and arguments how it can strengthen the complementarities of both BMs.
Embracing friction	“Without friction, no shine” CEO starts to see the need for BMI as result of frequent discussions. Original idea of CCO is adopted in a slightly changed manner as a result of discussions.	“Without friction, no shine” Friction leads to different insights what results in the improvement of original ideas.
Top managerial collaboration	CEO compromised and gave CCO room to develop the BMI initiative	Quicker support for ideas because of the smaller resource investments needed and the smaller impact on the organization.
Value driven decision making	Decision to innovate BM as an extension of the offline BM as extra service for current customers	Translate traditional core values of the organization in new online initiatives to leverage offline strengths in online BM
Experimental decision making	CCO led the embedded BM experimentation process in which the BM was experimentally designed	Decision to start experimenting is made collectively, experimentation is to test the initiative. TMT members are closely involved in experimentation.
Conservative resource allocation	Embedded BMI experimentation with limited investments	Start new initiatives very basic without heavily investing in it before the concept has proven its viability

Chapter 4:
Reinforcing Complementarities for Sustained High Growth

4.1 INTRODUCTION

High-growth firms (HGFs), often referred to as scale-ups, have become the center of both scholars' and practitioners' interest. Although HGFs present only around three percent of all firms (Brüderl & Preisendörfer, 2000; Feindt et al., 2002; Lopez-Garcia & Puente, 2012), they have been shown to be a main driver of job-creation within regional and national economies (Du & Temouri, 2015). In addition, despite their relatively small proportion in the economy, HGFs generate important positive externalities for entire industries or regions, by enhancing their productivity and innovativeness (Bos & Stam, 2014). In recent years, high-growth firms, have received ample attention within a variety of research domains, such as entrepreneurship, strategic management and public policy (Daunfeldt et al., 2016; Krasniqi & Desai, 2016; Stam, 2015). Typically, the main focus of such literature has been on the question of 'how many' of these types of firms can achieve steep growth paths over time (Dobbs & Hamilton, 2007; Henrekson & Johansson, 2010), as opposed to trying to understand 'how' and 'why' they are able to do so.

However, only a very small proportion of start-ups is able to survive and transition into a scale-up (Demir et al., 2017). Even fewer of those sustain their growth over extended periods of time (Daunfeldt & Halvarsson, 2015). Some authors have already hinted at the unique nature of rapidly growing firms (Delmar, Davidsson, & Gartner, 2003; Powell & Sandholtz, 2012), and highlighted the challenges of operating in continuous fast change, where organizational routines and practices need to be consistently adapted (Nicholls-Nixon, 2005) Yet, there is still a dearth of research addressing *how* HGFs are able to overcome these challenges and maintain high growth over time (Lee, 2014). Therefore, our current understanding about the factors and processes that sustain high growth has remained rather limited (Demir et al., 2017; Wright & Stigliani, 2013), along with our capacity to document any systematic, as opposed to stochastic, variation that can support high growth (McKelvie & Wiklund, 2010). This is a crucial omission because a thorough understanding of HGFs requires not only the identification of its determinants and outcomes (Demir et al., 2017; Jansen & Roelofsen, 2018), but also a clear focus on the way in which high growth is built and manifested over time. Currently, how scale-ups manage the intricate balance of continued growth, while limiting inertial forces (Demir et al., 2017), and continuously align organizational capabilities (Eisenhardt & Martin, 2000) to internal and external contingencies (Simsek, 2009), remains a puzzle.

To understand this puzzle, there is a clear need for insights about *how* strategic leaders purposefully assemble and match resources, practices, and processes (Danneels, 2011; Eggers & Kaplan, 2013) in HGFs in order to capture and fuel high growth opportunities and sustain rapid scaling over time. To deepen our existing understanding of this puzzle, we will focus on the *manageria*l and *organizational* capabilities required to sustain high growth, and examine the way in which they build and sustain rapid growth over time (Adner & Helfat, 2003; Helfat & Peteraf, 2003).

In order to gain rich understanding of the dynamic nature of high growth, we have adopted a qualitative lens and focused on a single case (Eisenhardt, 1989; Yin, 1984). Specifically, we have chosen one of the most successful Dutch HGFs, Takeaway, which was one of the first to enter the online food delivery market and has been sustaining its rapid growth rates over a span of more than 10 years. Studying this case in depth has allowed us to document the processes, events and outcomes of the company's growth trajectory in extensive detail over an extended period of time (Langley, 1999) and to gain a deeper understanding of *first*, what are the specific capabilities that enable sustained rapid scaling and *second*, how these are enacted and developed over time.

Our findings show that strategic leaders within an HGF take deliberate actions to identify and prioritize key growth driving activities in the organization, which we refer to as *capturing the growth logic,* and *assemble* them into routines and capabilities that help ensure a continued match with the external and internal contingencies the firm faces during growth. In particular, we have seen that the top management developed three core organizational capabilities, namely *pooling resources, focused intervention,* and *controlled empowerment*, which were enacted in order to establish and sustain high growth rates over time. Thus, in contrast to prior research, which has addressed rather generic dynamic capabilities such as financial, innovation, and marketing capabilities as antecedents of achieving high growth (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009), our findings are able to highlight *specific* capabilities for not only achieving but also sustaining growth.

In addition, we observe that the capacity of the top management to consciously reflect on their existing constellation of routines and capabilities, and create opportunities to develop new ones as needed over time, is another key managerial capability in helping them to break away from inertial loops (Eggers & Kaplan, 2013; Levine, Bernard, & Nagel, 2017), and in remaining nimble and flexible to quickly change their course of action as needed. We label this capability as *reinforcing complementarities*, which plays a key role in facilitating high growth. It entails not only identifying, orchestrating and renewing a set of organizational routines that each contribute to sustained growth, but also deliberately seeking for *complementarities* among these capabilities in order to accelerate their joint impact on the company's growth. We argue that noticing how to enact these different capabilities in different combinations together, and thus reinforcing the complementarities among them, not only supports growth, but actually leads to amplifying its velocity, thus allowing HGFs to achieve their ambitious targets. This managerial capability goes beyond the recognized ability of firms to retain and improve their performance levels through effectively reconfiguring their resources and knowledge base (Dibella, Nevis, & Gould, 1996; Teece et al., 1997; Zollo & Winter, 2002), and offers insight into the specific ways in which strategic leaders' capabilities contribute to the development of high-growth outcomes.

Finally, we contribute to the literature on HGFs by providing a process model that captures dynamically *how* high growth can be sustained over time, which can serve as a valuable blueprint for fast-scaling organizations. By identifying specific high growth dynamic capabilities and more importantly, illuminating *how* these evolve and contribute to sustaining rapid growth over time, we therefore move beyond recent static insights about the initiation and achievement of high growth (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009), and illustrate the process through which HGFs may dynamically sustain their rapid scaling over time.

4.2 THEORETICAL BACKGROUND

High-growth firms are defined as organizations with at least 20% of annual growth rate in terms of revenue and/or employees over a three-year period, and with at least 10 employees in the base year (OECD, 2007). Nevertheless, HGFs often double in size and they often do so on an annual basis. When companies rapidly scale in size, their internal environments 'suffer' from dramatic changes in managerial scope. Such contexts are characterized by continuous, fast, and often uncertain changes, which quickly renders the companies' practices and structures as obsolete (Nicholls-Nixon, 2005). In order to effectively meet the challenges of high growth, some authors emphasize the importance of balancing between rapid changes and stable structure within the organization (DeSantola & Gulati, 2017) –a setting that often calls for a fast paced development of dynamic capabilities in the firm that can enable it to adapt to the changing circumstances (Winter, 2003). Thus, a unique challenge in the high-growth context is the recognition of not only when to take action, but also how to adjust or reconfigure the organizational responses to internal or external contingencies, and to maintain or even improve the organizational performance.

The high-growth context is thus unique in the way that the internal and external environments are in constant flux, which brings important challenges of continuous adaptation. Lee (2014) provided a general overview of frequent challenges within high-growth firms, being lack of management skills, recruitment and financial issues. Other authors (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009) examined potential organizational capabilities that might be important for dealing with the challenges of high growth. Functional capabilities such as marketing, financial and innovation capabilities have been identified as important prerequisites of high growth. While this has broadened our understanding of such companies, the dominant focus of prior studies took a rather static approach in examining such a dynamic phenomenon (Dobbs & Hamilton, 2007; Henrekson & Johansson, 2010). Moreover, the generic capabilities identified seem to appear in other not necessarily rapidly growing firms. Therefore, it remains unclear what the *specific* capabilities that enable and fuel sustained rapid scaling of HGFs are and how they operate over time. Consequently, little if any attention has been allocated to studying how HGFs develop and reconfigure their capabilities over time in the face of rapidly changing internal and external contingencies (Demir et al., 2017). Hence, there is a clear need for insights into the ways strategic leaders of HGFs dynamically enact, assemble and reassemble routines into such specific capabilities with the aim of maintaining their steep growth rates. In order to address this, the dynamic capabilities literature provides an important theoretical backdrop to study, as its fundamental idea is that firms continually reconfigure tangible and intangible resources and capabilities to take advantage of the changing conditions and maintain their performance levels (Teece et al., 1997).

The current state in the dynamic capabilities literature indicates that the development of dynamic capabilities is either examined in new ventures or more mature firms (Autio et al., 2011). Namely, prior work has mostly focused on capability development in different types of settings, such as internationalization of new ventures (Autio et al., 2011), in conditions of proactively constructed crisis (Kim, 1998), in support of newly formed strategy (Montealegre, 2002), and in incumbents' response to environmental change (Danneels, 2011). While these findings are certainly valuable, they offer limited insight about the development of specific capabilities that are needed for facing rapid growth environments, such as in scale-ups.

Dynamic capabilities reflect the ability of the organization, and thus top management, to purposefully extend and modify the routine and capability base of the organization (Helfat et al., 2007; Helfat & Winter, 2011). The dynamic development and modification of the routine and capability base is guided by the managerial capabilities of strategic leaders (Eggers & Kaplan, 2013; Helfat & Martin, 2015; Schilke, Hu, & Helfat, 2018; Helfat & Peteraf, 2015; Levine, Bernard, & Nagel, 2017). According to Eggers and Kaplan (2013), there are three processes through which managerial capabilities guide and orchestrate organizational capabilities. First, they guide the construction of experiences into organizational routines. The knowledge base of managers which is formed by their prior experience forms the basis of capability development (Zahra, Neubaum, & Hayton, 2020). Then, deliberate conscious reflection on these experiences allows management to update and enrich their knowledge base and to construct organizational routines, which represent the building blocks of organizational capabilities (Helfat & Peteraf, 2003; Salvato, 2009).

Managerial capabilities, in turn, orchestrate the assemblage of routines into organizational capabilities. Capability assembly is an important instance of capability development as it reflects top management's capacity to first identify an organizational purpose for which the routines might be applied, and second, to combine the organizational routines into capabilities in order to facilitate the achievement of an organizational purpose (Kaplan, 2015; Kogut & Zander, 1992). The process of capability assembly is an iterative one of trial and reflection by the top management team (Helfat & Peteraf, 2003; Helfat & Winter, 2011) and hence, is governed by managerial capabilities as it reflects the attention managers pay to certain routines and organizational purposes (Ocasio, 2011; Zahra et al., 2020). While the purposeful assembly of routines into capabilities, which are aligned with the organizational purpose, is certainly important and can be challenging for all firms, it is even more striking how managers who operate in circumstances of constant internal and external flux are capable of processing and even acknowledging all the ongoing changes. It remains unclear how in such high velocity contexts managers are able to prioritize, select, and assemble an effective set of routines and capabilities that can enable and sustain their high growth over time.

Besides the alignment of routines with the organizational purpose, matching the assembled capabilities to the internal and external conditions constitutes an important managerial capability which depends on the way in which managers conceptualize both their capability base and the environmental conditions (Danneels, 2011; Helfat & Campo-rembado, 2016). Notably, perceived mismatches between the firm's capabilities and external conditions motivate the revision of established capabilities and the addition of new ones (Eggers & Kaplan, 2009, 2013; Taylor & Helfat, 2009; Tripsas & Gavetti, 2000).

Prior research has shown that management 'updates' its knowledge base through learning from experience (Collis, 1994; Eggers & Kaplan, 2013; Kogut & Zander, 1992). The infusion of new knowledge that management gains from experience with the existing capabilities within the organization allows them to improve the combination of routines in such ways that their resulting assembly into organizational capabilities increases the value of the firm's capability base. Strategic leaders do so by incorporating best practices and renewing routines and capabilities to keep them useful for the alignment with the organizational purposes (Gavetti, 2005; Zahra et al., 2020). As Zahra and colleagues (2020: 47) note, the process of developing and integrating routines into “a coherent organizational capability” often entails the integration of “diverse knowledge” and its conversion “into useful commercial applications” with the aim of maintaining the firm’s competitive advantage.

HGFs thus face the challenge of constant adaptation to continuously changing internal and external circumstances that come with rapid growth (Nicholls-Nixon, 2005). Scholars have emphasized that being alert to altering conditions and recognizing when and how to (re)orchestrate the routines and dynamic capabilities is guided by the dynamic managerial capabilities of strategic leaders of a firm (Helfat & Peteraf, 2015; Kaplan, 2015; Salvato, 2009; Taylor & Helfat, 2009; Tripsas & Gavetti, 2000). The dynamic capabilities framework, and specifically the managerial capability lens therefore provide an important theoretical backdrop for our study of how HGFs dynamically develop and maintain high growth rates over time and notably, support answering our research question: *What are the managerial and organizational capabilities that enable sustained high growth and how are they created and enacted over time?*

In what follows, we will first reflect on the steps taken in order to collect and analyze our data, and second outline how we have successfully addressed this research question in our empirical study through demonstrating and elaborating upon our emerging insights about the case.

4.3 RESEARCH METHODS

4.3.1 Research design and empirical context

As our primary focus in the paper is on understanding the mechanisms that support organizations’ capacity to establish and sustain fast growth over extended periods of time, which still remains a poorly understood phenomenon, we have adopted a grounded theory approach. This has allowed us to gain a deep understanding and to develop a rich contextualization and vivid description of the experiences and processes that characterize fast growing organizations (Lee, 1999), and to engage in theory building and elaboration (Fisher & Aguinis, 2017; Gioia et al., 2013). We have specifically chosen to focus on a single organization for our study, which represents a prototypical exemplar of a highly successful scale-up company as it has achieved uninterrupted high growth from its establishment till present day.

Takeaway, originally founded in the Netherlands in 2000, was an early entrant in the online food delivery market and took advantage of the introduction of broadband internet in order to grow its operations. It leveraged its online presence successfully as it grew from 200 orders per month in 2003 to 600,000 per month in 2013 to more than 6 million per month at the end of 2017. In 2019 alone, the company created 2,272 new jobs, now leading them to employ over 5,600 employees worldwide. Takeaway has also grown internationally since 2007, where they established their initial presence in Belgium and Germany, followed by Austria, Switzerland, UK and France, and more recently taking a position in Eastern European markets as well. It has further grown by aggressively acquiring emergent competitors in their attempt to retain a market leader position. At present, it is the fastest growing company in the Netherlands with an impressive growth rate of 96% in FTE numbers. This makes it a revelatory case (see Eisenhardt & Graebner, 2007) for the study of fast growth and the underlying processes that help to establish and sustain it. Takeaway is also a unique case for this, as in contrast to many other similar organizations, it still retains its original founder who can offer unique insights into the challenges and changes that the company underwent over time. In addition, it succeeded to grow in a self-funded manner in the initial years of operation, while at the same time managing to achieve sound profitability over the years that many other high-growth firms fail to accomplish.

4.3.2 Data Collection

We collected the data for our research over a 30-month period. In 2017 we conducted the first explorative interview with the founder and CEO of Takeaway.com. The insights gathered during the interview guided further data collection and helped us to identify respondents. The first formal round of data collection was done in 2018, where we collected 17 in-depth interviews with senior-ranking employees in the organization. In this period, we followed an open-ended interview protocol, where we asked informants about the most important challenges of high growth that they experienced and how these challenges were addressed. In 2019, a second wave of interviews was conducted, where we collected further 12 interviews with senior-level employees. During the interviews, we specifically zoomed in on the challenges identified earlier in order to verify our initial understanding, as well as to gain more in-depth insights into these topics. In total, we conducted 29 formal interviews with the founder/CEO, board members and senior managers, divided over two time periods. This resulted in 25 hours and 59 minutes of interviews, which lasted 52 minutes on average and produced 312 pages of transcript.

We further collected archival data that helped us to triangulate our findings (Glaser & Strauss, 1967). The documents collected took four forms: (1) annual reports; (2) company communications and legal documents; (3) a teaching case about the company; and (4) press coverage, including press releases by the company and news articles about the company. A total of 1.822 pages, divided over 107 documents were consulted and extensively analyzed. We used many of the company and press documents to verify some of our emergent themes, as well as to further ensure the correct timeline of our event history. Table 4.1 provides a detailed overview of the data.

As our research interest is in mapping how the company established, maintained and persisted in its high growth trajectory, we were particularly careful about the risk of ex-post rationalization when discussing early challenges with our informants. In order to mitigate this, first of all we asked multiple participants across the organization to review and interpret the core events we were documenting about the company's early growth stage period, so as to verify and validate the narratives that we were developing (for a similar approach, see Vuori & Huy, 2016). Furthermore, as we had excellent access to the organization, and as our case represents a rare example where the original founder is still leading the company, we had an opportunity to verify our emergent understanding with him and the senior management and to confirm all key events and interpretations that we developed in our narratives of growth trajectory that characterized the organization. A final technique that we employed to support memory accuracy was to ask for very concrete examples and illustrations when discussing particular critical events or challenges in order to help us obtain more realistic and comprehensive accounts of the past events (see Fisher, Ross, & Cahill, 2010; Tulving, 2002; Vuori & Huy, 2016).

Table 4.1 Data Overview

Data collection period	2017	2018	2019	Minutes/pages	Total
Interviews				52 minutes avg. 1.559 minutes 312 pages	30 interviews
CEO & Founder (F)	1	3	1	231 (24 pages)	5
Chief Financial Officer (B)		3	2	348 (38 pages)	5
Chief Operating Officer (B)		1		61 (11 pages)	1
Chief Technology Officer		2		68 (17 pages)	2
Chief Technology Officer			1	43 (8 pages)	1
Chief Marketing Officer		1	1	70 (16 pages)	2
Director Human Resources		1	1	109 (26 pages)	2
Director of Scoober Operations		1	1	105 (28 pages)	2
Director of Customer Services		1	1	101 (25 pages)	2
Director of Sales		1	1	120 (39 pages)	2
Director of Product		1	1	87 (24 pages)	2
Director of Data Analytics		1	1	109 (31 pages)	2
Manager Investor Relations		1	1	107 (25 pages)	2
Archival documents				1.822 pages	107 documents
Annual reports				749	4
Communications & legal documents				621	9
Teaching case				23	1
Press releases and coverage				429	93
Lectures given by the board					2

NOTES: Out of 30 interviews, 23 were recorded and transcribed. The labels in brackets indicate the hierarchical level of the interviewee. F refers to founder and CEO, B refers to board member, the remaining positions refer to senior management.

4.3.3 Data Analysis

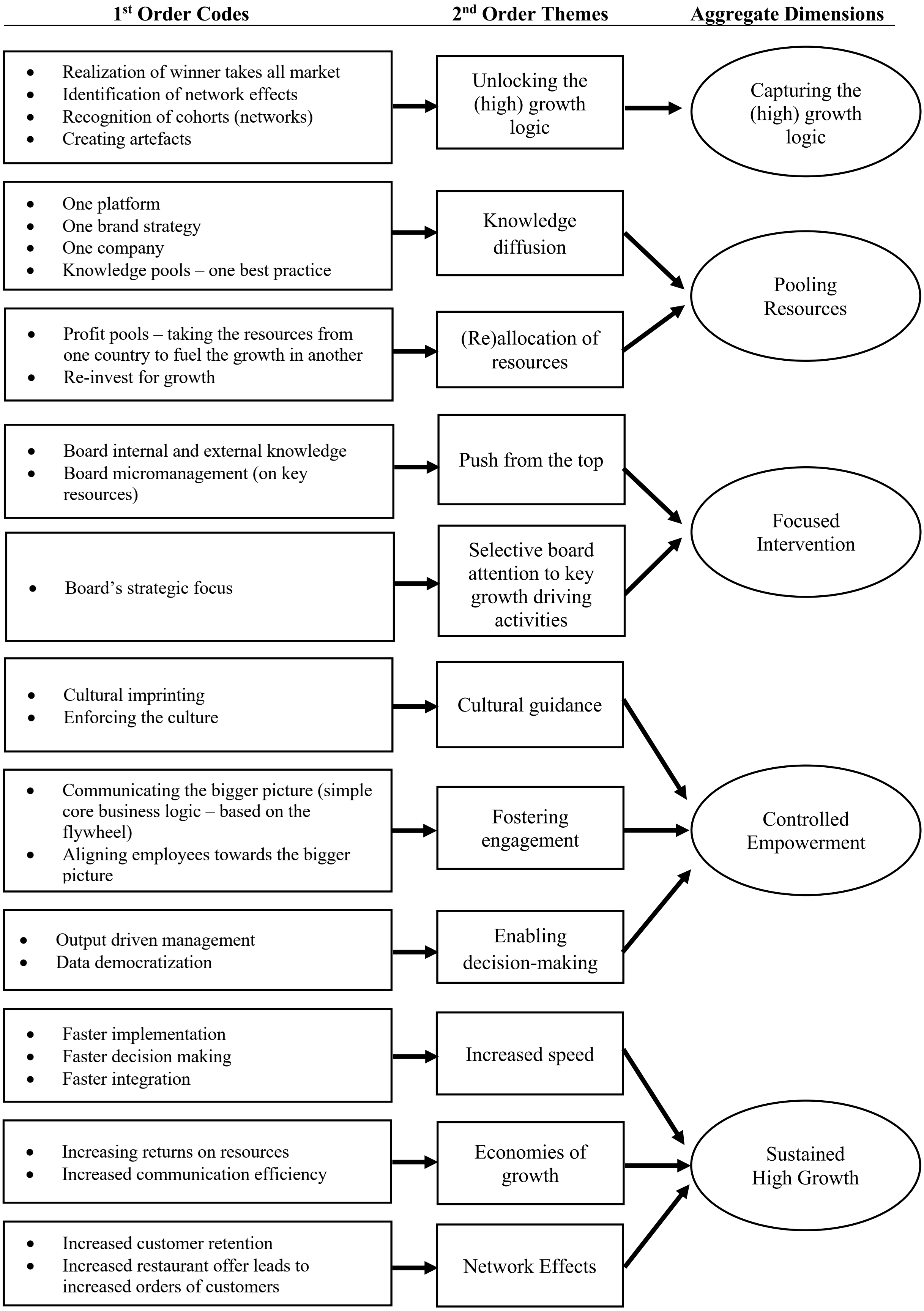
To analyze our data, we have followed the guidelines of the 'Gioia method' as we had a single case study (Langley & Abdallah, 2011; Nicolini, 2009, 2013). Even though the data analysis process is iterative and not linear, we have summarized our approach in three main phases below. During the *first* phase, we developed a detailed timeline of events, juxtaposing information from each participant and paying particular attention to critical events and challenges that individuals highlighted about the company's operations, from its foundation until the present day. We constructed this timeline, based on the two waves of interviews. As those were spread 18-months apart from each other, the first wave allowed us to identify the main critical events in the lifespan of the company, whereas the second allowed us to validate our understanding of these events and to inquire further about the effects that each of these had on the operations of the company. In doing so, we also developed a thick description of how the various events and processes we noted took place and evolved over time (Langley, 1999).

In the *second* phase of our analysis, which proceeded alongside the first phase, we coded all of our interviews in an ATLAS.ti database in order to systematically organize, code and recode our data as new patterns and themes were observed. In developing the first order codes, we used the constant comparative method (Strauss & Corbin, 1998) to capture our emerging understanding of the factors that supported the company to establish, propel and sustain its fast growth (Glaser & Strauss, 1967). We then abductively engaged with existing theoretical frameworks (Mantere & Ketokivi, 2013), which could help us address our theoretical puzzle, in order to develop more general second-order themes at a greater level of abstraction (Tavory & Eliasoph, 2013; Van Maanen, 1979). For a detailed overview of our first-order codes and supporting interview data, please see Table 4.2 in the Appendix.

As our original focus was on identifying some of the critical events throughout the growth of the company, we also resorted to 'temporal bracketing' (Langley, 1999) in order to analyze our emergent themes in light of their impact on the organization over time. We developed a data structure (Gioia et al., 2013) as a device that facilitated the comparison and contrast of our codes as our understanding of the company's processes evolved over time, as shown in Figure 4.1.

Finally, in the *third* phase of our analysis, we looked for relationships between our second order theoretical constructs in order to develop a provisional grounded process model that took the temporal dynamics within our case into account (Langley, 1999). Specifically, we looked at the temporal connections between our second-order theoretical concepts.

Figure 4.1 Data Structure



4.4 FINDINGS

4.4.1 Capturing High Growth

4.4.1.1 *Unlocking the growth logic*

Unlocking the growth logic refers to the process of identifying the key growth contributing components of the business model and developing a framework that could guide all subsequent managerial decisions along this logic.

Realization of winner takes all market. In 2007, the company expanded internationally by moving into the German and Belgian market. As they experienced growth immediately in Germany, they started investing heavily in marketing to stimulate growth in that market. Even though this helped them to grow strongly, they saw that their competitors grew at the same speed. This insight helped them to realize that if the bigger firm grows at the same rate, it would be impossible to catch up because their absolute growth would still be bigger, thus leading them to drop even further from their competitors. Knowing this helped them to realize that the market they operate in is a "winner takes all" market, in which eventually it is only the biggest firm that will reap all the benefits:

> *"We were fourth in Germany; we had put a lot of money into it. It went pretty well too; we still grew in 2014 by eighty percent. That is quite a nice growth. But we also knew that there were three that were larger. One of those three, number three in Germany, they grew as fast as we. We thought that was pretty good, because they were three times as big in Germany, so we thought it was pretty good that they grew just as fast. And we just knew, we have to be number one." (Interviewee 1, (F), interview 2)*

In 2014, led by the "winner takes all market" business logic, the firm decided to acquire their closest competitor in the German market, Lieferando, and hence move closer to the market leader position.

Identification of network effects. Capturing the business notion of the "winner takes all market" led to an even more significant discovery for the board, namely that there is a clear reinforcement effect from growth on both sides of their platform. This implies that connecting more restaurants to the platform on one side, will drive an increase in the number of customers on the other. In the words of our informants, this was labelled as *network effects*. The power of such network effects stems from the fact that they can create an *upward growth spiral*. Namely, growth on one side of the business model (i.e., more restaurants) leads to growth on the other side of the business model (i.e., more customers) and vice versa. Stimulating such complementary growth on each side of the platform could therefore perpetually fuel their expansion and help them achieve and retain top status. Enhancing the network effects was therefore seen as an important means to become a market leader.

> *"Greater brand awareness means that they can sign up more customers and that they ultimately take more and more distance [from the competitors], even if I do my work equally well, they will increasingly take more distance. And that then told us: no, we just have to get bigger. Then our marketing becomes much more effective" (Interviewee 2, (B), interview 1)*

Recognition of cohorts. The acquisition of the Polish company called Pyszne in 2014, led to a significant discovery in the company's growth trajectory. Namely, they discovered that groups of customers can have very similar behavioral patterns. Pyszne was the Polish branch of Lieferando, the German company they acquired that year. Due to the board's unfamiliarity with the Eastern European market, it had started analyzing the data about customer behavior collected by the Polish company and comparing it with other countries. To their surprise, the board actually realized that despite the geographical and potential cultural differences, there were clear similarities in customers' ordering time and frequency, events that trigger increased demand, and customer loyalty. The CFO describes the moment when the board looked at the comparison of customers' behavior across markets and recognized patterns in their behavior:

> *"And what we have seen, and that was evident from the cohort, was just the behavior of consumers ... And that is also a reason why we said: why do we treat each country separately, while when you see how consumers behave from the cohort, that's all the same. And so, if those people all behave the same, why do we have to approach them differently?" (Interviewee 2, (B), interview 1)*

This realization has helped the board to capture an additional component of their high growth logic, referring to the discovery that the knowledge and practices that have proven successful in one market can quickly be leveraged in all other markets as well. This recognition of cohorts, or in other words groups of customers that behave similarly, has allowed the board to make faster decisions and to implement their knowledge across different markets, thus increasing their efficiency and further accelerating the firm’s growth.

Creating artefacts. In order to effectively capture the high growth logic of their business and ensure that it is applied in all future business activities, the board members resorted to creating an essential artefact, called the ‘business logic flywheel’. “The flywheel” is a visual representation that captures the logic of the network effects and demonstrates the above-outlined reinforcement effects between the number of restaurants and the number of customers on their platform. “The flywheel” was therefore seen as an important decision making ‘tool’, which helped the board members to further streamline all decision-making processes, by ensuring that every next step of the company aligns with the flywheel business logic. The establishment of this artefact helped to further channel their attention towards the activities that will increase the number of restaurants and hence the number of customers and the other way around.

Starting from 2018, the board decided to enrich their current B2C operations with a B2B model, after the acquired the Israeli-based company 10Bis. 10Bis was servicing the B2B market, providing meal plans directly to corporations. In order to reflect their expansion into the B2B space and how this influenced their business logic, Takeaway, further revised the original artefact, in order to include a visual representation of the expected B2B benefits and reinforcement effects.

> *“Well, network effect means all restaurants, more restaurants, more restaurants, more customers, more customers, more restaurants. But also, more restaurants means more orders per customer, so that's just the flywheel going to spin” (Interviewee 10, interview 1)*

4.4.2 Pooling Resources

4.4.2.1 *Knowledge diffusion*

Knowledge diffusion refers to the concentration of structures and insights in order to accelerate knowledge flows in the organization leading to increased speed and efficiency.

One platform. In the initial years (2000-2007) of operation of the company, while based still solely in the Netherlands, Takeaway had been developing and redefining their original two-sided platform. Upon expanding internationally to Germany and Belgium in 2007, they insisted on retaining the same platform model by translating it into these foreign markets, which facilitated the effective adoption of a one platform strategy during subsequent expansions into foreign markets. Relying on the one platform strategy meant that after every acquisition, Takeaway would integrate the newly acquired platform into its existing platform. Operating with a centralized platform internationally allowed the firm to quickly apply the accumulated knowledge to a new location, as well as to avoid operating and having to coordinate multiple different standards and systems, which enhanced their efficiency.

The greatest test for their one-platform approach took place during the acquisition of Lieferando in 2014, one of their largest competitors on the German market at the time. After acquiring Lieferando, they directly decided to integrate the two platforms in order to further leverage the one platform strategy. Even though integrating was time-consuming and complex, its success has influenced the firm's decision to integrate every subsequently acquired platform as well. According to the senior managers, the process entailed a crucial learning component, which helped further integrations of acquired platforms. This is apparent in all acquisitions, but most impressive in the example of the Delivery Hero takeover in 2019:

> *"If you look at the Lieferando acquisition, it took a little longer before we actually switched to a new platform. But you can see that we have also learned from that and that we now also want to go to one platform as quickly as possible. You can see that in the example of the Delivery Hero migration, in which, in three weeks' time, we almost completely switched to the new platform, so that we no longer had that dependency." (Interviewee 5, interview 2)*

This has allowed the firm to not only speed up the integration process of each subsequent acquisition, and hence grow even more rapidly, but also to quickly diffuse their newly developed resources across the new units and maintain its competitive advantage. Being able to allocate focused attention to one rather than numerous platforms has enabled the firm to distribute their accumulated business knowledge across all their locations more efficiently.

> *"But we have that one company, one platform approach that we really say, we want just one platform. If we innovate in one country, it should be a feature which should be used in all countries. That makes us way more efficient on that side" (Interviewee 3, (B), interview 1)*

One brand strategy. Even though they used one platform across borders, a country specific brand strategy was initially adopted. After the acquisition of Lieferando in Germany, Takeaway operated with two different brands in the German market. Having the two separate brands in Germany created a strong need for a larger marketing budget, which would 'fuel' both brands at the same time and to the same extent. The understanding of the 'Flywheel logic' entailed in the firm's knowledge base, in which a bigger size would further stimulate the upward spiral of growth, triggered the belief that integrating the two brands would allow them to further leverage the network effects. Exercising their commitment to the 'Flywheel logic' and the importance of fostering network effects and an upward growth spiral, the decision was made to move to a one brand strategy, transforming both brands into one.

> *"We focused everything on one brand, on the Lieferando brand. And since, we've been growing very strongly in Germany, gained market share very successfully." (Interviewee 3 (B), interview 1)*

The one brand approach discovered in Germany has enabled the company to overthrow their main competitor there and become a market leader as they could now, in contrast to some of their competitors, continuously allocate their marketing budget to 'fuel' a single brand rather than to split their resources into several different ones, which helped them to strengthen their efficiency.

One company. Up until 2007, Takeaway was still a small company, centrally operating with all employees in their headquarters in Enschede. When expanding internationally, initially the organization retained a divisional structure, whereby each country's manager was directly responsible for the operations of their branch. This had differential success across their existing markets, which limited Takeaway's ability to establish significant market share in some locations and threatened to jeopardize the growth of the upward spiral.

The transformation from a Dutch to an international company with branches in various countries, while still applying the one platform strategy helped them to re-evaluate their business logic in line of following a function-specific, as opposed to a country-specific structural design. Initiating a transition towards a functional organizational structure helped them to speed up knowledge flows, thus shortening communication lines between the board and the functional departments. Having a centralized organization helped them to further speed up decision making, and the implementation thereof, across all markets directly. The company completed their transition to a functional organizational structure in 2012:

> *"... And the platform, that's just 60% of us ... Almost everything revolves around the platform. If that is one platform, why don't we have one marketing department? One way of working. Why don't we just try to do best practices and some ... And concentrating knowledge in one place and I think that has been a very important decision for us" (Interviewee 2, (B), interview 1).*

Knowledge pools. Enabled by the centralized structure and operations, pooling knowledge gathered from one location to another became an important strategic tool to quickly disseminate newly gained insights and thus to accumulate and share learnings on the value adding activities of the company that could support its fast growth. For instance, by concentrating the marketing knowledge to one functional unit in the organization and focusing their marketing efforts in all countries on attracting more customers, and hence stimulating the flywheel, a coherent approach was adopted across all locations. This further increased the knowledge diffusion and enhanced the competencies of functional departments.

> *"in Austria, Delivery Hero's local marketer does not compete with Lieferservice.at, no, they compete with Takeaway. You compete with our entire marketing team" (Interviewee 2, (B), interview 1)*

Benefitting further from the identification of similar behavioral patterns among their customer groups in different markets (the cohort effect, discussed earlier), the company could also identify and translate best practices in achieving and maintaining the firm's high growth from their home market to all other locations.

> *"For example, customer service, it appears that we do customer service everywhere, in the same way, so that the software is the best, so that the practice is the best, so that we have no different rules. So, oh, you don't have your food, well, then this is the procedure." (Interviewee 1, (F), interview 2)*

Pooling the firm's accumulated knowledge base across markets enabled higher efficiencies and operational speed, thus eliminating the need for identifying appropriate practices and mastering them within each market.

4.4.2.2 *Re-allocation of resources*

Reallocation of resources across markets captures the firm's efforts to pool their resources across locations from areas where growth is already established to areas where greater growth investment, in order to reach a market leader status, is necessary. In addition, it also addresses their impetus to consistently re-invest their resources in key value adding activities, which could support the upward growth spiral.

Profit pools. The switch towards a centralized organization constituted a structural change that allowed the board to speed up the implementation of strategic decisions contributing to the flywheel logic. Namely, the centralized organization enabled the fast pooling of slack resources across markets as less stakeholders had to be considered in the decision to pool profits out of one market and invest it into another. For example, being aware of the "winner takes all" market dynamics, the board was convinced that they had to become the number one in their key markets. As the board identified Germany as a key market, pooling profits from the Dutch market helped them to stimulate the network effects by investing in marketing to acquire more customers and hence stimulate growth in Germany. Continued resource pooling was also evident in their decision to sell out Just Eat in the United Kingdom in 2016, after the realization that it was not compatible with the 'winner takes all market' logic, and the takeover and transfer of investment in Just Eat Benelux in the same year. As a result, the company has been able to reallocate their resources to countries where the market leader position could be reached, stimulating further the network effects that help lead to high growth.

> *"Those profit pools, why did we win in Germany eventually? Actually because of the Netherlands. Because of the profits in the Netherlands. Of course, we had raised money with the IPO, but the profits in the Netherlands, that's what we used to finance all growth elsewhere. So also those huge investments in Germany." (Interviewee 2, (B), interview 4)*

(Re)invest in growth. The entrepreneurial spirit of the founder, who is still CEO of the organization, led the board to constantly seek new opportunities for growth and hence to reinvest the firm's profits into further growth in order to ensure the long-term success of the organization. The prioritization of investment decisions for the board were driven by the flywheel logic. As the board knew that they had to connect more restaurants and attract more customers and that those two would stimulate each other leading to growth, coherent decisions could be made. Hence, they reinvested their profits into growth driving activities that either increased the number of restaurants or attracted more customers.

> *"We thought it was important: you have to grow, and we had the money. So you have to hire a lot more sales people and you just need to have restaurants ... And you can also see that that very quickly has grown enormously. Precisely because the offering became much bigger." (Interviewee 2, (B), interview 1)*

The strong (re)investment in growth is further reflected in different initiatives over time. Some examples of these initiatives in the period after the German takeover are numerous subsequent acquisitions, such as Delivery Hero, 10bis, and Just Eat, and the launch of the firm's own delivery service in 2016. Eventually, the investments made into all of the listed initiatives have the ultimate aim of further reinforcing "the flywheel" and hence enabling the sustained high growth of the firm. Thus, even in the later years, after growing bigger, the board members succeeded in handling the shareholders' pressure to pay out dividends, and instead allocated their resources to further growth.

> *"But it is also important that we have always invested. Every- We never said of, now we're going to park that money on the bank or something like that. And that is very attractive because at a given moment you earn a lot of money with these kinds of companies. I only think that it is not smart in the long run. Ultimately, of course - if that entire market is online, you can get a nice dividend out of it. But you should not do that at the moment that you are still growing." (Interviewee 1, (F), interview 2)*

4.4.3 Focused Intervention

4.4.3.1 Push from the top

Push from the top refers to the manner in which the board was closely involved in managing the operations at all levels of the organization.

Board internal and external knowledge. In the early stages of the firm's development, the founder was individually leading the company and often engaging also at operational levels. Throughout his years of experience in the industry, in which he had been actively involved as a managing director, he had gained a good understanding of the dynamics between the stakeholders in the industry. This knowledge, matched by a deep understanding of operational level processes, was a precondition for an increased interference of the board at the operational level of the organization, also in later stages of the growth trajectory.

> *"Because all three of us have done the work, just really literally the work, the three of us can answer almost all questions" (Interviewee 2, (B), interview 1)*

While the recently reached size of the company has reduced the possibility of keeping detailed track of daily operations and interfering with them, the rich knowledge base gained over the years allowed the board to retain their grip and input on all actions related to key growth-driving activities. By relying on their understanding of both the internal and external environment of the organization, the board members could also make faster decisions as required.

Board micromanagement (on key resources). The board's deep knowledge pockets and intimate understanding of both the internal and external operations also created the preconditions for their more direct engagement, or as employees would refer to it, interference, at all levels of the organization, particularly at the early stages of high growth. As the board had a clear overview of employees' activities, it could easily interfere indicating strong and frequent micromanagement in order to ensure the operations' alignment with the high growth logic.

> *"And I think [the CEO] and me and also [the CFO], we're all pretty hands on. I mean, that might be criticized for micromanagement to some extent. But if we see things, even on a small scale which go wrong, why should I stay calm and not tell people?" (Interviewee 3, (B), interview 1)*

Over time and due to the rapid increase in managerial scope, the board gradually started shifting towards a more selective interference, focusing their attention only on larger growth driving initiatives and key resources that absorbed their strategic focus. This is reflected in the CFO's report, where he states that due to the rapid increase in the number of activities, he has recently narrowed his focus only on few key performance indicators:

> *"So we see very big benefits and where you prioritize, that is of course the question, I think you should be there- For me, I focus on certain KPIs eventually and that is what I look at. And the rest, I don't look at that so much." (Interviewee 2, (B), interview 4).*

4.4.3.2 Selective board attention to key growth driving activities

Board's strategic focus. We observed that over time, as the company grew in size, the board was able to selectively attend to and prioritize key growth driving activities of the business, which allowed it to dedicate their time and attention to specifically nurture these areas. This evolved as a gradual process, where they would carefully evaluate and identify such key activities, where their own input would be most critical for supporting the flywheel logic of the organization, and would start dedicating their efforts more directly to supporting them, switching cognitive gears as soon as a new key value-adding activity for growth was identified.

For example, in the early years of internationalization, the founder's efforts were mainly focused on marketing, which they identified as the key growth driving activity. Following this, he recognized the importance of another key growth driving factor, namely the need to attract investment to fuel further international growth, which was then subsequently prioritized for the board until its successful execution.

A further illustration of the board's selective attention and capacity to shelter their time and energy for what they consider key growth-driving activities for the business, include the integration of Lieferando in 2014, the launch of their own delivery system (2016), their IPO (2016), and in the past year (2019) the start of B2B activities and the acquisition of the UK market leader. As these activities were all prioritized as important for reaching a market leader position, following the "Winner takes all market" growth logic, they were consistently attended to by the board.

> *"So, the status right now is little bit different, because I'm new and also, our CEO is focusing on Just Eat [UK market leader] merge a lot right now. So, he does not have enough time for, let's say tech...or product...So, he's focusing on investor relations and upcoming Just Eat merge." (Interviewee 12, interview 1)*

4.4.4 Controlled Empowerment

4.4.4.1 Cultural guidance

Cultural guidance refers to ensuring that all organizational members understand the company values and act in accordance with them, which in turn enhances the communication efficiency and speeds up the decision making and operational activities.

Cultural imprinting. Operating as a start-up, Takeaway initially made quick decisions and implemented them without the need to document them. The way the company operated was clearly embodied in the behavior of its founder and employees, thus making it easy to adopt and observe for potential newcomers. During the first years of international expansion, there was still a family-based culture in the organization. The strong social ties between individuals at all levels of the organization made that individuals were willing to help each other and hence contribute to the company-wide goals.

> *"You start with about thirty or forty and then you really have that family-based culture. So, everyone knows what they do and help each other" (Interviewee 11, interview 2).*

Yet, with the rapid increase in the number of employees as the company grew, the awareness of the existing culture started to be a much greater challenge, shifting the company further and further away from the familiar family-like start-up environment. This became particularly prominent in early 2018, when the senior management started to become acutely aware that distilling and communicating to their ever-growing employee base what the organization stands for, was an important next challenge. This realization was further fueled by their fear that losing grip of the culture can limit their capacity to direct everyone's actions in alignment with the organization's high growth business logic. As a result, the board triggered the process of formally defining and codifying the organization's culture and its values in order to ensure that everyone understood what really drove the success of the company and its DNA.

> *"I actually see it as a kind of DNA, that is your personality of your organization. And if you do not - If you do not know what it is, then you cannot rely on it either, then you cannot judge it either, then you cannot train on it either, then you cannot even know about it. Then you cannot speak to your middle management about what you want to see in that leadership style. (Interviewee 13, interview 1)*

Enforcing the culture. Following the rapid increase in the number of employees, the board and the HR director launched a range of initiatives, whose purpose was to clarify and solidify the identified core cultural values of the organization. For example, they relied on social induction, engaging employees in informal interactions, and encouraging and facilitating cohesion through joint social events. In addition, the firm started to allocate more effort and time to thorough onboarding processes, which entailed detailed presentations and explanations of the established organizational culture.

> *"And what we did afterwards, that we all held workshops in the company that said - who very clearly linked those values to the company and therefore also spoke to people about what is important, what do we expect from them?(...) So in this way you try to give content to each individual's environment and to make that link between environment and those concepts. Then people know why they do things and what is expected of them." (Interviewee 2, (B), interview 4)*

Moreover, the firm made sure that the codified cultural values are institutionalized through involving them in the definition of main competences needed for enacting all roles and by including them into the formal performance evaluation process. Lastly, the firm assigned cultural change agents dispersed across different levels of the organization, who would facilitate the process of value adoption, through reminding the employees of the expected and valued behaviors within the firm.

> *"We have done all kinds of change programs, but we actually have the core values there- If you define them, you have them- Then the question is, but how do you let this live? So we opted for a bottom-up approach in which we have appointed change agents in the organization." (Interviewee 13, interview 2)*

4.4.4.2 Fostering engagement

Fostering engagement refers to creating a clear understanding of the overall organizational purpose and the employees' role in achieving such purpose, which enables communication efficiencies and speeding up of operational processes.

Communicating the bigger picture. Initially, the small organizational size allowed the firm to have a flat organizational structure in which each department reported directly to the board. By being close to the central company goals, it was clear for each department how they contributed to the bigger picture and organizational growth more broadly. Over time and after an exponential increase in the number of employees, however, the firm realized that many people at different organizational levels do not understand what the company's business logic of spiraling growth really stands for. This reduced the employees' engagement and led to a reactive, rather than a proactive approach of meeting challenges, often causing a passive wait for a 'command' response, rather than a proactive initiative. The board's response to this issue was enhanced communication of "The flywheel" business logic first to senior managers and shareholders, and later after further expansion to the employees at all levels in the organization with the aim of aligning their behavior with that logic. Hence, the previously described flywheel has an additional function, besides being a decision-making tool for the board, it also serves a communicational purpose. Namely, the visualization of the firm's high growth logic, through presentation slides, posters, and other artefacts, helps the firm to engage in and align employees' behavior.

For instance, during the launch of the firm's delivery service (2016), the board needed to justify their decision about logistics activities that are unfavorable for the firm's overall profitability. This need has motivated the board to actively start communicating to senior managers the flywheel logic that supported the new initiative. Such frequent communication of the growth logic helped the firm to gain the senior management's agreement and facilitate their engagement in implementing the new initiative. Most importantly, better understanding of the high growth logic at senior management level aligned these managers' further decision-making processes, channeling it towards the overarching company goals, and engaging their team's actions in the same direction.

> *"And indeed, it is part of the fact that if we have done something, it must also be clear in that silo, to the managers in that silo, why we do it. And sometimes that is not entirely clear, so then we have to explain it better again "(Interviewee 1, (F), interview 5)*

Aligning employees towards the bigger picture. In order to further facilitate the employee engagement and initiative in a desired way, the board also started to emphasize and explain how individual roles within the firm jointly contribute to the overall flywheel business logic, which in turn enables the firm's growth and success. In this communication process, the firm has recently (2019) started relying on developed tools, such as a KPI tree that adapts each department's goals to the overall company goal and a Job Family Framework, which outlines the possible career trajectories within the firm.

The KPI tree is a recent initiative led by the Data and Analytics director aimed at increasing employee engagement, reflecting the measurable objectives of employees and illustrating how the KPIs at each level gradually converge towards the top-level objectives, being the overall organizational high growth goals. The Operations Director explains how the KPI that is important for him at the senior management level is broken down and translated into lower level KPIs of his delivery team in order to create understanding, engagement and alignment of his team's action:

> *Cost per order is important to me. That is less important for the team [delivery team]. So for the team we often translate that into, for example, whatever we do with efficiency, so that is, how efficiently do we use such a courier how much orders he does in an hour, on average? (...) More orders per courier. So that's the most important task they [delivery team] have. And that still stimulates and can simply influence them. And even that they cannot fully influence, but they do understand that if you are an operations manager, that is the target." (Interviewee 9, interviewee 2)*

Due to the passive and reactive, rather than proactive behavior of employees, which endangered the further expansion of the company, the HR department has also recently created an overview of career development trajectories for each starting position, called "Job Family Framework". This tool further reinforces the proactivity of employees, through providing clear information about what is expected from them in their current and potentially further positions and what requirements they should fulfill in order to reach these desired functions. Through increasing the desired engagement of employees, this tool has reduced the employees' lack of motivation and proactivity and established a foundation for sustainably maintaining such engagement towards the firm's growth logic over time.

> *"…another trajectory is that we have defined job families actually for different levels. So that has nothing to do with your profile, with your job description, but at a certain level you need certain skills, you are expected to do. And so you can once again hang on to those core concepts and that can give you substance." (Interviewee 13, interview 2)*

4.4.4.3 Enabling decision-making

This theme is about providing employees with tools to come up with decisions themselves leading to the goals that are set by the board, and hence increasing decision making efficiency and speeding up the firm's operations.

Output driven management. Because of the board's initial close involvement (and interference) at all levels of the organization, they made most of the operational decisions, leaving little room for employees to do so.

Following the surge in number of employees however, a gradual shift from a strongly top-down managed company to an output driven and managed company was initiated with the aim of empowering employees at all organizational levels to make informed decisions. The firm started relying heavily on result-oriented goal setting, which was aligned with the overall organizational goals, and thus required limited, if any, micromanagement at this stage. This allowed greater freedom for the employees to craft their own approach to the organizational goals, and further enhanced their perception of personal responsibility through strengthening their sense of task ownership. Certain departments attempted to further reinforce the result-oriented management style, by only setting the "Objectives and Key Results" (OKRs) for the employees, leaving freedom and autonomy to make decisions and to find the means to the defined outcomes.

> *"And within those OKRs, they have the freedom to come up with initiatives that support that. And we have just started, so that is still partly experimental. But we*

> *do see that it causes them to think more and more about themselves, how can we contribute to this goal? And that is also important for scalability." (Interviewee 5, interview 2)*

Through empowering employees to make decisions that are aligned with the overall organizational high-growth logic, the firm has effectively responded to the challenge of the rapidly increasing managerial scope and hence, increased efficiencies and enabled the firm's further expansion.

Data democratization. The need to engage people and encourage them to take over responsibilities in combination with the rapid expansion of managerial scope motivated the board to develop further performance management tools that would simultaneously empower lower level decision-making and guide the employees' behavior in desired direction. This initiative has been gradually unfolding since 2015, when the company hired their Data and Analytics (D&A) Director.

The D&A director's vision was to enable access to the 'right' data for the 'right' people, in order to stimulate the engagement of employees. In the words of the D&A director, this has been labelled "Data democratization". However, the top management team's desire was to ensure that employees have access to parts of the data that will enable decision-making and hence facilitate not any action, but specifically the actions towards attaining the overall organizational goals. Hence, this initiative ensured decision-making power, but only to the extent that the actions were aligned with sustaining the high-growth logic of the firm.

> *"We still control that like, these are the facts, but you can look up the why question yourself, that is a big data tool, in your self-service analytics. So, you go and see, well you know, so many restaurants we have now, these restaurants have done so many orders. You can analyze yourself, so we really try 'power to the people', a bit of that principle" (Interviewee 6, interview 1)*

This initiative has resulted in a gradual development of task ownership among employees and consequently enhanced their sense of responsibility. The combination of providing more decision-making freedom to lower organizational levels with controlling the input for those decisions has helped the company to effectively deal with the rapidly increasing managerial scope through increasing efficiencies and pace, and hence enable further expansion.

4.4.5 Complementarities among Pooling Resources, Focused Intervention, and Controlled Empowerment

In addition to developing the three core organizational capabilities, which we have outlined in the sections above, we have also observed that Takeaway's board has been able to identify and leverage important *complementary* effects among these capabilities, which could further fuel the company's 'flywheel' and support the network effects, key to driving the growth spiral for the company.

In line with Kaplan and Eggers (2013), we conceive of this as a managerial capability, which is expressed in the capacity of the top management team to closely *attend to* and *search for* the fit between their changing external environment and the internal core capabilities of Takeaway. In doing so, they pursued a *matching process,* by either applying their existing set of routines and capabilities in response to any perceived changes, or by developing new ones and integrating them within their existing capabilities for high growth. In particular, we observe that Takeaway's top management was able to combine and configure their existing set of routines in a dynamic way in response to internal or external demands (see Danneels, 2007; Taylor & Helfat, 2009), such that they not only leveraged the benefits of the individual routines themselves, but also *built in complementarities* among them in their execution. This helps to fuel a much faster response and to generate efficiencies that help reinforce the network effects and fuel their growth spiral. It is precisely this capacity of *developing and orchestrating such complementarities* and ensuring that they are deeply embedded in the day to day operations of Takeaway that we refer to as a managerial capability of *reinforcing complementarities.*

Within that reinforcing process, the configurations of routines from each of the three organizational capabilities that build up the complementarity effects are not static, but rely on the top management's ability to dynamically update them, by decreasing or amplifying their reliance on certain combinations of them, or by extending them and developing new ones from scratch, if a greater mismatch is perceived in terms of their strategic fit. In the next section, we outline several key examples of how they were able to achieve and exercise such complementarities among their core capabilities, and thus to further enhance their organizational outcomes.

One such illustration of the reinforcing effect of some of the organizational capabilities can be observed during the acquisition and integration of Lieferando, in which *pooling resources* and *focused intervention* were applied simultaneously to complement one another. In order to accomplish the growth logic, the board aimed at achieving as quick an expansion into Germany as possible. While doing so, they also decided to integrate the platform of Lieferando into Takeaway, following *a one-platform* approach. In addition, the firm moved to a *one brand strategy* in order to be able to strengthen the network effects in a more efficient manner and as a result enhance the firm's position in its trajectory to becoming the market leader. This was further facilitated by the *board's deep knowledge* and understanding of the market dynamics at the time, as they could clearly recognize how such a move would help them gain some advantage over their competitors.

> *"Takeaway used its funds to grow in Germany. But they were the number four players, so they didn't have big footprint in Germany, so for them, the combination was great, because they also had quite some losses in Germany, and if you combine the two businesses, we could spend the same amount of marketing on the combined, just on one brand, which is way more efficient" (Interviewee 3, (B), Interview 1)*

Furthermore, their *one company* approach enabled the reallocation of slack resources in the Netherlands to fuel their growth in Germany. This, in combination with the boards strong *strategic focus* on the German market, allowed them to invest the additional resources that were available after their IPO gained in The Netherlands in 2016 into their German operations and hence facilitated the accomplishment of their goal to become the German market leader.

The close attention of the board on the integration was important as it allowed the firm to speed-up the process. At first, employees tried to combine the best of both the Lieferando and the Takeaway platform in the new 'integrated platform'. As this process turned out to be too time consuming, the executive board decided to interfere and stop the employees' search for the best of both worlds. Instead, the board *pushed the employees* to migrate the entire German operations to the familiar Takeaway platform. Due to the board's *attention* being *fully absorbed* by the integration process, Takeaway was able to reach higher efficiency and speed not only in the integration process, but in its further growth as well.

> *"We tried to go the smoother way in the sense of like take part of that system, take part of that system and try to use the best system of both, but the team wasn't too focused, and they took too long, and at some point, we just took an executive decision to go for one platform" (Interviewee 3, (B), Interview 1)*

Taken together, the routines within two capabilities (*pooling resources* and *focused intervention*) strengthened each other when enacted together, thus leading to increased speed in the organizational operations, efficiency advantages and stimulated network effects. The findings highlight how pooling resources alone was not enough, but it was the additional board attention that, when enacted together, brought out the complementarity among the capabilities and reinforced their effectiveness, thus accelerating the process. Similarly, the board's close attention and interference at lower levels would not have reached the same magnitude of positive outcomes without the effective and efficient pooling of resources, further emphasizing the importance of mutually reinforcing complementarities between these capabilities.

Another key example to illustrate the reinforcing effect of all three core organizational capabilities can be found in Takeaway's acquisition of the Israeli online food delivery market leader 10bis in 2018. Leveraging the board's astute strategic focus on identifying opportunities for growth, it was recognized that 10bis had a strong potential to help them enter into B2B services, an area that the board assessed as promising to reinforce the flywheel. Since the *board had deep knowledge and understanding* of the importance of strengthening the firm's network effects, implied by its growth business logic, the B2B model was interpreted as a great opportunity that would provide further reinforcements for the established B2C model, by expanding the customer base of the company and reinforcing the firm's high growth logic.

In order to accomplish the integration of the newly acquired firm, the company has relied firstly on *pooling their profits* and reinvesting them into this new initiative. Furthermore, Takeaway kept relying on the *one platform* strategy, integrating the newly acquired platform and even payment system into its own existing one. Moreover, the firm has kept the *one brand and one company* solutions, keeping the managerial control over the newly acquired B2B framework centralized under the 'same roof' as the existing B2C model. This has allowed Takeaway to rely on and quickly absorb the established B2B specific knowledge pools of the Israeli company. Relying on the pooling resources capability enabled reaching higher long-term returns on the made investments reaching *economies of growth.*

This initiative was further successful as it also absorbed the strategic focus of the board, who tried to provide strong pressure across the organization to finalize the integration as soon as possible. Relying on *focused intervention*, allowed the firm to ensure that all involved organizational members maximize and align their efforts to complete the started initiative as quickly as possible. The board's occasional interference at lower organizational levels had the aim to monitor, highlight and/or even correct potential mistakes based on the board's *deep* understanding and *knowledge* of the market conditions and internal organizational dynamics. By not only pooling its resources efficiently, but also having the board's valuable attention and rich knowledge on hand, Takeaway was able to *speed up* the effective integration of the newly acquired firm even more.

The integration of 10bis and its B2B framework into Takeaway's existing B2C model has been one of the first growth driving activities that required full reliance on the firm's third capability as well, being controlled empowerment. Upon engaging with the acquisition, the firm made sure to consistently communicate to employees the importance of this acquisition for the firm as a whole, and how everyone's role can clearly help and contribute in order to complete this to a successful end. In order to ensure that employees understand not only *what* is expected from them, but also *how* it can contribute directly to business growth, the firm relied on its formally defined company culture and its active enforcement through previously described activities. Lastly, the board has empowered the employees to internally experiment on a smaller scale with the new B2B model through receiving and delivering orders to TA's own employees. This has allowed for an increased decision-making power at lower levels as long as the employees reach the goals set by the company.

While relying on pooling resources and focused intervention can increase efficiency, speed, and eventually strengthen network effects, simultaneously motivating and engaging the workforce through controlled empowerment really helped to bring the acquisition to a successful end. Recognizing that all three capabilities are necessary to work in tandem is important as, even though focused intervention could ensure that employees allocate their attention and efforts towards accomplishing important growth activities, if employees are disengaged and have not seen how their input contributes to accomplishing the greater organizational objectives, it would not have been a success. Recognizing the complementary role of this third capability is also particularly important as it further demonstrates the board's constant attention to the need to revise existing and develop new capabilities, given the evolving organizational context, in order to continue their growth and be able to consistently adapt.

Given that over time with the growth in size it had become impossible for Takeaway's board to keep a complete overview of everyone's activities within the firm, noticing and developing the additional capability ensured that everyone still jointly contributes towards achieving economies of growth, speeding up, and strengthening the network externalities.

Therefore, it was the capacity of the top management to dynamically match (Eggers & Kaplan, 2009) the internal capabilities of the organization to the changing external environment through developing and *reinforcing complementarities* that helped them to ensure that the growth logic is consistently enacted and achieved.

4.5 SUSTAINING HIGH GROWTH: A PROCESS MODEL

Building on those core insights, we have also developed a process model, capturing Takeaway's growth journey from its initial international expansion until present day. Illustrating the dynamic manner through which it established, orchestrated and revised its key capabilities and processes in order to sustain high growth is an important contribution to the high growth literature as it allows us to move beyond some of the current static models and to offer a richer, contextualized, dynamic representation of "*how*" such firms can achieve and sustain their growth over time (Dobbs & Hamilton, 2007; Henrekson & Johansson, 2010).

The process model therefore represents the interplay of the managerial and organizational capabilities we identified earlier and demonstrates how the dynamic development and joint instantiation of different configurations of these capabilities in response to the day-to-day challenges perceived by the organization, helped it to increase its overall efficiency of operations, speed of adaptation to change, and eventually contributed to sustaining its high growth.

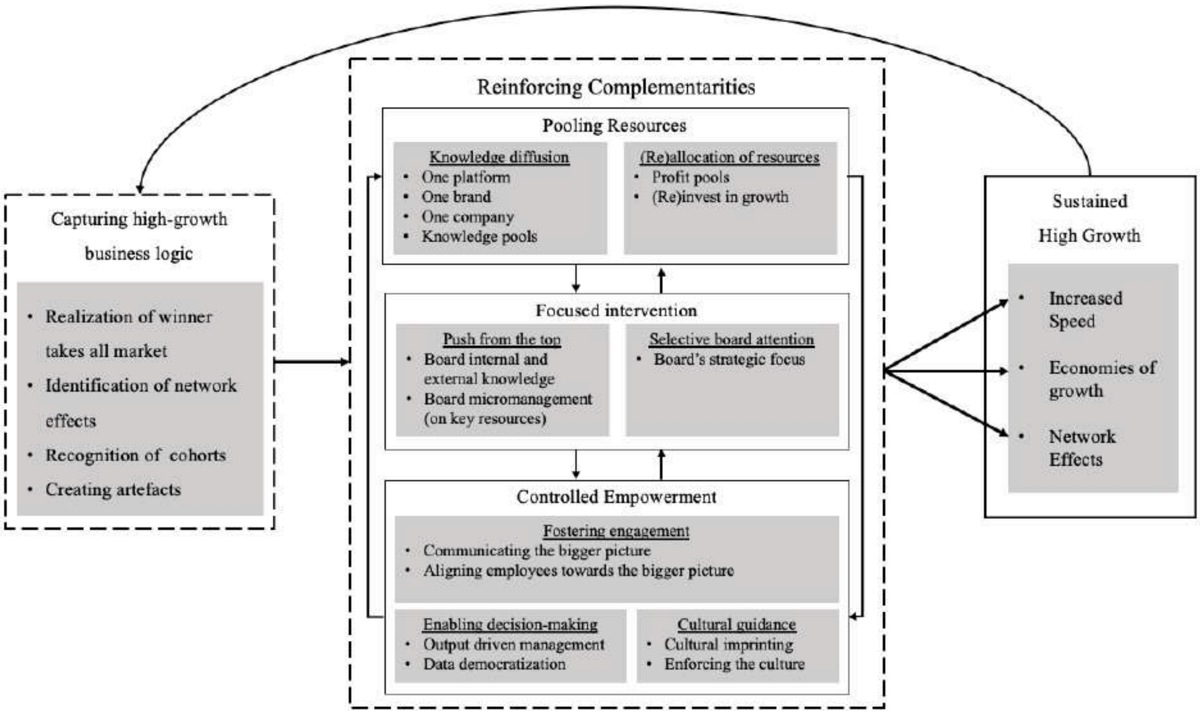
We observed two main learning loops in the process model that uniquely supported high growth, and those include the double-sided feedback loop between capturing the growth logic and the three organizational capabilities, as well as the learning from the orchestration of the organizational capabilities themselves and the development of complementarities among them. The two feedback learning loops, facilitated by the presence of the managerial capabilities capturing the growth logic and reinforcing complementarities, have helped to establish points of "reflection" (Schreyögg & Kliesch-Eberl, 2007: 927) and "self-conscious inquiry" (Danneels, 2011: 21) in the hurried day-to-day operations of the organization. This was critical as it supported the top management team's ability to regularly search for and attend to (see Ocasio, 1997; Tripsas & Gavetti, 2000) external and internal events and to stay attuned to the core drivers of success in their industry and to revise their existing capabilities assemblage once strategic fit was perceived as not optimal.

The first learning loop entails the board and senior leaderships' capacity to consistently search for, attend to and distill the key success factors for the company and to develop means through which they can embed the perceived growth logic in all their day-to-day operations. The initial recognition of the winner takes all market logic, for instance, which the senior management realized early on, spurred the development of a set of organizational routines and capabilities, in order to embody this logic in the organization's operations. The enactment of these organizational capabilities, particularly the *focused intervention* at the time, facilitated in turn the recognition of the network and cohort effects, which became evident after the company's initial internationalization and growth spurt. Those were then encoded back within the growth logic and served to further inform the subsequent actions of the organization, including a new capability development, called pooling resources. Finally, the attentiveness of the senior management to the challenges of managing their fast scaling employee base internally, further supported the development of a new organization capability (controlled empowerment) and spurred the decision to use artefacts to communicate the business logic more widely and perceptibly across all layers within the organization, which was further encoded in the growth logic. This learning process helped not only to ensure that all business lines operated in line with the core business logic, but also that any changes in the external or internal environment were noted and relevant adaptations in the capability assemblage of the organization were made.

The second feedback learning loop*,* reflected the top management team's capacity to not only develop and revise routines and organizational capabilities that are in line with the high growth logic of the firm, but also to attend to the *complementary* effects among them and to *orchestrate such complementarities* by drawing upon and enacting different configurations of routines in response to key changes and challenges that they encounter. This played a particularly key role in high growth, since successfully identifying and developing new complementarities among routines and organizational capabilities increased the *velocity* and effectiveness with which the whole organization could execute, learn and adapt to its environment. In line with more dynamic approaches (e.g. Laamanen & Wallin, 2009; Schreyögg & Kliesch-Eberl, 2007) we observed that the company engaged in enacting complementarities cyclically, both by pursuing existing combinations and by identifying new ones and reinforcing them in order to achieve its growth objectives.

Finally, we observed that developing these managerial and organizational capabilities, and nurturing the two learning loops, greatly enhanced the company's outcomes, instantiated in *increased speed, economies of growth,* and *network externalities.* The increased speed as a result of the interplay between managerial and organizational capabilities is evident in Takeaway's capacity to implement faster decision making, faster integration of acquired companies and to roll out faster overall implementation of its decisions. For instance, whereas the first big integration of a newly acquired platform (Lieferando) in 2014 took over two years, the most recent (2019) integration only took them six months (Delivery Hero), and the expected time needed for upcoming integrations is even less. Moreover, repeatedly relying on and updating the reinforcing complementarities capability helped the firm to achieve economies of growth, entailing increased returns on resources and increased communication efficiency. For instance, Takeaway's board emphasized the importance of the substantial growth in returns on the same amount of resources invested over time, for sustaining and even accelerating the firm's fast growth. Lastly, dynamically and repeatedly exercising the reinforcing complementarities capability, the firm has achieved important network externalities. Namely, through constantly finding new ways to stimulate the growth in the number of restaurants acquired on one side, and hence, reinforce the increase in number of customers on the other, as well as through retaining existing customers, the board has created an upward spiral of growth. As we have observed, these outcomes have jointly contributed to a steady and consistent high growth over the years, both in terms of keeping a far above 20% increase in the number of employees over three-year periods, as well as in terms of their sale targets and profits. An overview of the process model is provided in Figure 4.2.

Figure 4.2 Process Model of Reinforcing Complementarities for Sustained High Growth



4.6 DISCUSSION

The importance of HGFs for job creation and wider economic benefits has been highlighted by prior studies (Henrekson & Johansson, 2010; Kirchoff, 1994; Lopez-Garcia & Puente, 2012; Shane, 2009) and has hence attracted the attention of many scholars over the last three decades in attempting to identify important determinants of high growth. The finding that such substantial benefits for the economy are created by a very small number of firms, able to survive and sustain their high growth over extended periods of time (Brüderl & Preisendörfer, 2000;

Feindt et al., 2002; Lopez-Garcia & Puente, 2012), emphasizes the difficulty of understanding the factors and processes that support such steep growth rates.

In order to gain more insight about organizational growth drivers, earlier studies have focused on identifying and examining the relations of certain dynamic capabilities with organizational high growth (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009). While these studies have helped to gain insights into the functional and somewhat generic capabilities that might be important antecedents to high growth, we still lack a deeper understanding of the specific capabilities that can sustain high growth and how they are developed and revisited over time. By relying on an inductive logic, our study addresses this gap and provides a rich account of how strategic leaders within HGFs take deliberate actions to identify and prioritize key growth driving activities in the organization, assemble them into sets of routines that form *specific* high-growth capabilities, and ensure their continued enactment and adaptation in response to changing internal and external demands.

4.6.1 Theoretical implications

One of the important roles of strategic leaders within firms is to guide the construction and development of routines in order to meet organizational goals and maintain the firms' competitive advantage (Eggers & Kaplan, 2013; Helfat & Peteraf, 2015). Prior studies emphasize the importance of a firm's knowledge base, formed by managers' experience, as a foundation for capability development (Zahra et al., 2020). Namely, conscious and deliberate reflection on prior experiences enables strategic leaders to revise, reconfigure, and even enrich their knowledge base and to construct and re-construct organizational routines (Helfat & Peteraf, 2003; Salvato, 2009). The findings of our study provide insights into how strategic leaders *capture the high-growth logic* of the organization, representing a managerial capability, which continuously draws on the aggregated knowledge base formed by the leaders' prior experience, and guides the construction of needed routines and organizational capabilities (Zahra et al., 2020). It reflects the strategic leaders' ability to identify and prioritize key growth driving activities in the organization and translate them into organizational routines and capabilities that help sustain high growth over time.

Our study provides insights not only into specific managerial, but also specific organizational capabilities that allow HGFs to sustain fast growth over prolonged periods of time. We identify how the managerial capability capturing the high-growth logic guides the construction of routines and the assembling of these routines into three core organizational capabilities: *pooling resources, focused intervention and controlled empowerment*; and show how these capabilities interact in order to create an upward spiral to sustain and speed up growth. Earlier studies have conceptualized dynamic capabilities as identifiable and specific routines, such as product development routines and strategic decision-making (Eisenhardt & Martin, 2000), yet provided little insights into their configurations. Although the role of capabilities is among the most important dimensions of the study of organizational growth (Penrose, 1959), only a limited number of studies have illuminated the importance of certain functional capabilities, such as financial, marketing and innovation capabilities (Barbero et al., 2011; Chan et al., 2006; Helfat et al., 2007; Stam & Wennberg, 2009), for high growth (Demir et al., 2017). While these studies highlight the relevance of capabilities as antecedents of high growth, their insights are rather generic, and do not provide insights into what specific dynamic capabilities allow a firm to sustain high growth over time and *how* they are enacted and reinforced by the organization. Our study moves beyond these findings by not only identifying specific high growth capabilities, but also showing how strategic leaders of a HGF take deliberate action to develop and maintain its capability base in order to accelerate the upward growth spiral, leading to sustained high growth for prolonged periods of time.

Prior research on high growth has predominantly applied a rather static approach to studying its determinants, by focusing on secondary data and quantitative techniques (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009). However, high growth involves rapid changes and specific dynamics (Nicholls-Nixon, 2005) that call for more in-depth qualitative insights into *how* strategic leaders of HGFs manage to generate and sustain growth. Our study outlines some of these dynamics by explicating how a specific managerial capability of top managers (Eggers & Kaplan, 2013; Helfat & Peteraf, 2015; Tripsas & Gavetti, 2000), which we label *reinforcing complementarities*, can help them to not only develop, but also continuously orchestrate and reconfigure their organizational capabilities in order to sustain high growth.

Prior research has already highlighted the importance of top managers cognitive capacity for firms' capability development and reconfiguration. For instance, Montealegre (2002) demonstrates that the firm's ability to capture rents does not merely depend on having *better* resources and capabilities; rather, it depends on managers ability to know more accurately the relative productive performances of these capabilities. In a similar vein, Danneels (2010) highlights that the extent to which dynamic capabilities are exercised depends on top managers mental representation of their capabilities and their applicability. Our study builds on this foundation by providing insight into the top management's ability to consistently sense when new developments were necessary as a result of changes both in the external and the internal environment and to seize the opportunity to either develop new organizational capabilities, or to reconfigure their existing ones. Moreover, our study highlights the top management's capacity to consistently develop and configure complementary combinations of the firm's existing capabilities and hence emphasizes the top management's important role in recognizing and building complementarities into the firm's capability base. We argue that the reinforcing complementarities managerial capability hence plays a crucial role in ensuring the firm's vigilant and effective response to the changing organizational environment and plays a key role in continuously facilitating sustained high growth (Eggers & Kaplan, 2013; Helfat & Peteraf, 2015). Such a managerial capability captures the top management's capacity to build configurations of organizational routines (across different organizational capabilities) that would mutually reinforce each other's strengths and thus fuel the company's growth spiral.

Prior literature has defined complementarities as the situation where the combination of variables leads to more value than the sum of the amounts of value the variables could create independently (Clougherty & Moliterno, 2010), and broadened our understanding of technological complementarities (Teece, 2018a), routine complementarities (Parmigiani & Howard-Grenville, 2011), as well as resource complementarities (Adegbesan, 2009). While we know much about the importance of complementarities with regards to different instances within organizational settings, we lack insights about the nature of relations among dynamic capabilities. Examining complementarities among capabilities is specifically important since complementarities are not stable and changing circumstances call for a change in the architecture of complementarities (Helfat & Raubitschek, 2018). Our study demonstrates how top management, relying on its reinforcing complementarities capability, deliberately seeks and generates complementarities among the firm's high-growth capabilities to accelerate the impact of each individual organizational capability. This not only supports growth, but actually leads to amplifying its velocity, thus allowing HGFs to achieve their ambitious targets. These insights complement prior research on routine assembling (e.g. Ford & Friesl, 2019; Laamanen & Wallin, 2009) by showing that managerial capabilities not only drive the assembly of routines into organizational capabilities, but also the specific way in which the individual organizational capabilities are assembled into a high-growth specific capability base. In addition, our study reaffirms prior studies that have argued that the development and deployment of dynamic capabilities depends on the cognitive process by which managers interpret the match between organizational capabilities and the internal and external environment (Kaplan, 2008; Tripsas & Gavetti, 2000).

Even though prior studies have emphasized the importance of managerial capabilities for monitoring the changes in internal and external conditions (Eggers & Kaplan, 2013; Helfat & Peteraf, 2015), this is even more relevant in the high-velocity environments, in which HGFs need to operate (Nicholls-Nixon, 2005). Namely, in such environments strategic leaders have to maintain continuous vigilance and be able to effectively balance between maintaining stability and initiating change (DeSantola & Gulati, 2017). Our findings therefore demonstrate the readiness of strategic leaders, by relying on their *reinforcing complementarities* capability, to sense the need to revise the firms existing capabilities and seize the opportunities to enrich their established capability base, in order to effectively accomplish the firm's ambitious growth targets. Our insights therefore not only reaffirm the important function of dynamic managerial capabilities to monitor and act upon perceived mismatches between the external and internal conditions of the firm (Eggers & Kaplan, 2013), but we also highlight the importance of a specific capability for creating and re-creating such high-performing capability assemblages.

4.6.2 Limitations and future research lines

The challenge of sustaining high growth for prolonged periods of time represents a significant frontier for management research. We believe our study provides important insights; however, it also has a number of limitations, which represent rich avenues for future research. First, we studied Takeaway because its sustained high growth was "unusually revelatory" (Eisenhardt & Graebner, 2007: 27). This allowed us to unpack the specific organizational capabilities for sustaining high growth and their dynamic development and modification, but raises questions about the generalizability of our results (Sigglekow, 2007). Firm specific characteristics, such as the industry they operate in, their technological nature, and the fact that they were not backed by venture capital in the first five years of their growth trajectory, might introduce case-specific idiosyncrasies important for the results. Although our model provides higher conceptual insights, moving beyond the firm specific characteristics, we encourage future research to explore the extension and boundary conditions of our model (Smith & Besharov, 2019).

A possible constraint in our data is that we collected data in a fixed, although lengthy, period of time (a 30-month data collection period). Although we carefully applied good practices of qualitative research in order to mitigate the risk of ex-post rationalization (extensively discussed in the methods section), future research would benefit from a more longitudinal and ethnographic approach. This would enable scholars to enrich the data with real-time observations, completely eliminating the risk of ex-post rationalization.

The current study contributes to our understanding about the impact of managerial capabilities on organizational capabilities within HGFs. More longitudinal and ethnographic approaches would also allow scholars to observe more directly the actual interplay between managerial and organizational capabilities over time. Future research would also benefit from studies that explore and unpack the specific cognitive capabilities (Helfat & Peteraf, 2015) that underlie top management's capacity to sense, seize and transform (Helfat & Martin, 2015; Teece, 2007) in such rapidly changing conditions generated by fast organizational growth. .

We further urge future research to explore the applicability of our model to other settings. An important question concerns how incumbents that do not experience growth, or firms that experience more modest growth rates, would benefit from our model. Future studies may identify various contingencies that affect the usefulness and feasibility of distinct capabilities for driving and sustaining high growth.

Overall, our study is among the first that illuminates the importance of managerial capabilities in the deployment and development of organizational capabilities that allow HGFs to continuously adapt their resource base to the fast-changing circumstances. We hope our model of sustained high growth inspires future research to continue exploring how firms sustain high growth over prolonged periods of time and hence contribute to economic prosperity.

4.7 APPENDIX

Table 4.2 Data supporting the data structure

Capturing the (high) growth logic

Unlocking the (high) growth logic: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Realization of winner takes all market	"But we have said, it does not make sense to be number two, three or four in a country" (Interviewee 1, F) "We do not want exclusivity; we also fight against that. And why? Because we know that the biggest party wins. Eventually the restaurant will be able to cater for the biggest party. Maybe the first two, but nobody wants eight of those... Because that just doesn't work for those restaurants" (Interviewee 2, B)
Identification of network effects	"But I think what you see, and that is funny, the bigger we get, and that is again that network effect, that is at least in recent years you have seen that, as long as we exist ... So the more restaurants we record, the more orders, the higher the average number of orders per restaurant" (Interviewee 2, B) "In addition, the network effects result in an increasing average number of orders per restaurant, despite the growing number of partner restaurants. The self-reinforcing nature of these network effects helps us to sustain our market leadership and ultimately enhances profitability." (Annual Report 2017)
Recognition of cohorts (networks)	"We have already said, but if the behavior of consumers is the same, apart from the maturity of the market itself and that system is exactly the same. You use the same system. The way you do sales, just one thing, as many restaurants as possible. If a number of elements are exactly the same, why would we let every country reinvent the wheel? (Interviewee 2, B) "We have put all those cohorts from all those countries together and then you see that those cohorts are all the same" (Interviewee 2, B)
Creating artefacts	"We benefit from powerful network effects as the number of consumers and restaurants on our marketplace is growing continuously (Fig. 2). As the number of consumers increases, more orders and higher gross merchandise value are generated, attracting more restaurants to our marketplace, which enhances and diversifies the offering, in turn attracting more consumers." (Annual Report 2017)

Pooling Resources

Knowledge diffusion: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
One platform	"And that had some issues in the very beginning, but by now, since we just have one platform, is the way faster option and way more efficient option to just run it on that one platform. In the past, when we had two systems, you also had to prioritize all the time, do we now implement that feature first for Germany or for the Dutch platform, and then you had that conflict of interest, which no longer exists now. You just implement it and then you roll it out for all the countries, and then straight away you have efficiency improvement." (Interviewee 3, B) "The same platform is used in all of the geographical markets in which the Company operates" (Prospectus)
One brand strategy	"If you combine the two businesses, we could spend the same amount of marketing on the combined, just on one brand, which is way more efficient" (Interviewee 3, B) "In all of our markets, we are running a single brand strategy. This means we are focusing all our efforts on only one brand per country" (Annual Report 2016)

One company	"We were a Dutch organization and we copied a lot abroad and that made us copy all the time. And the problem is that you pay a lot of attention to the Netherlands and little to foreign countries and the less important you work abroad, the less attention it had, so at some point said ok, now we no longer care for those boundaries, we no longer care for those languages, we just do one company" (Interviewee 1, F) "One of the advantages of our company is that we run it as one entity, with one team supporting the entire operation. Our one company, one brand approach allows us to compete with our full weight in each of our countries and not just with a local entity" (Annual Report 2016)
Knowledge pools – one best practice	"…because the bidding process in the Netherlands is really not different from Poland. So some things are now so generic that you can say better: I build a team that can copy best practice from each other" (Interviewee 2, B) "Yes, and that is something that we already see so much advantage in the current situation. That something comes up in one country that might be a good idea or a problem or whatever, from which we can learn not to make those mistakes in other countries." (Interviewee 10)

Pooling Resources

(Re)allocation of resources across markets: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Profit pools – taking the resources from one country to fuel the growth in another	"We could never have made that investment if we did not have that profit pool in the Netherlands in this case. And I say, but so those profit pool, we think that profit pools, which give you the opportunity elsewhere to expand, but also to defend your entire market and to ensure that you retain the number one position." (Interviewee 2, B) "And that means that if you are just a local player, you really have no chance. Because, then Amazon comes in, if you do not have that profit pool, if it is locally or elsewhere with which you can make that investment, then it will not go well." (Interviewee 2, B)
(Re)invest in growth	"And of course you could have put that money in the bank, but then you would have been much smaller now. So we decided to invest that money" (Interviewee 1, F) "We have not become profitable because we have the costs down - but it is just the turnover growing faster and this is all we can spend" (Interviewee 4)

Focused Intervention

Selective board attention to key growth driving activities: Selected evidence second-order theme

First-order codes	Selected evidence on first-order codes
Board's strategic focus	"In addition, there have been a number of activities from the board and management that have led to major changes. For example, the acquisition in Germany, for example the implementation of a new payment system, Takeaway Pay, new service for business customers." (Interviewee 10) "But I also know that the CEO [Interviewee 1, F] is very busy and with mergers and acquisitions. (Interviewee 8)

Focused Intervention

Push from the top: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Board internal and external knowledge	"I think the reason that we are successful is a little bit ... That is simply because the entrepreneur there knows exactly how things work. He [the CEO] knows: if you play there, something will change not only there but also there." (Interviewee 2, B) "And also, I mean, in the end, sometimes the outside view also helps, but in the end, we're still the deepest in terms of into the business, so we have to trust our opinion to some extent" (Interviewee 3, B)
Board micromanagement (on key resources)	"They want to do everything themselves, do not they? In any case, everything has to go about their desk. Everything that is released, everything that is done, every quotation, every investment, that is almost a kind of mindset that you will not change anymore, because at a certain age you no longer change in those fundamentals" (Interviewee 11) "Now there are quite a lot on top of it, so the top. Just leave the work to them and that is still difficult. [The CEO] still tells us very often at detail level what we should do if we have seen this, or is that going well?" (Interviewee 10)

Controlled Empowerment

Cultural guidance: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Cultural imprinting	"We sometimes grow with h per month and if we don't define it, then you slowly transform into something you don't want to be. We have become successful with something, with certain behavior, I am convinced. We are apparently doing something right, but what is that? And what distinguishes us from T and from competitors in our behavior? And the moment your DNA is nothing but the personality of an organization." (Interviewee 13) "Culture and governance are important elements for a rapidly growing company like Takeaway.com. Consequently, the Supervisory Board frequently addressed these items in its meetings and was closely involved in reformulating Takeaway.com's core values." (Annual Report 2017)
Enforcing the culture	"Securing the DNA. That is a very important challenge. That you really make sure that we get the things that we want to see back in our culture, that we really guarantee them through systems" (Interviewee 13) "We are now in the process of enhancing these values and further embedding into our organisation. For this purpose, we will use a variety of HR instruments, such as management development programs, performance management, talent management programs and change management programs." (Annual Report 2018)

Controlled Empowerment

Fostering engagement: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Communicating the bigger picture (simple core business logic – based on the flywheel)	"People also want to get a direction, so not only direction of how they should act and behave, but also what the strategy - That's best - And for us it is all very clear, but for example, you see very clearly what is still going on if you go further down the organization, it is not always clear. So every now and then, every six months or so, we have to give some direction, where does that organization go, what do we find important, how- What is the strategy?" (Interviewee 2, B) "And that flywheel is actually a very simple slide that is still not fully understood by very important investors who invest our pension money. Because then a new party is coming and it doesn't matter if that is Uber or who or Amazon. But the business model just works with - I think this is the most important slide. (Interviewee 4)
Aligning employees towards the bigger picture	"That was before I came, there was - It was sometimes hard to understand what - If the CEO then cried from, we go again, I don't know, to a new market or - To that then to translate to, but what does that mean for us in marketing? And that- and it thereby helps a bit that can translate to every time and everyone in it also to understand, okay, this is a piece where I really have influence, where I can really make a difference." (Interviewee 7) "The goal setting goes as follows, we start with top level goal setting and then we can cascade the goals to the rest of the organization via Workday. So you- It is basically the case that- My supervisor sets goals and I start looking at, what does that mean for me? On that basis I set my goals and then my ... (0:36:19) look away again, what does that mean for me? And that actually works like a waterfall over the organization" (Interviewee 6)

Controlled Empowerment

Enabling decision-making: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Output driven management	"Both the CEO and CFO, both look at output. Input is not important, output. You simply ensure that you have the fixture. And I never have discussions so often about how I do things, no, it's just him- You are looking- You just do it." (Interviewee 6) "And above all it provides clarity about what must be achieved versus how you will achieve it. And you also notice that that helps in how the teams look at that. … Performing as well as possible is when they also have the freedom to fill it in themselves. I mean, I'm not going to decide for them what they do, how they're gonna do it. But as long as it ultimately contributes to these overall results" (Interviewee 7)
Data democratization	"So data democratization. So ensuring that everyone has access to that information to be able to look at it, what happened yesterday? What is in which country? In which city? Which zip code even. What type of customer? Well, you can't think of it that crazy. But ensuring that everyone has access to it." (Interviewee 6) "What I want to know is of course: what can I expect from the growth of such a market and how much do I have to spend on it? And that is only possible if I have the cohorts or if I have more insight into that market of: what does marketing cost, what does television cost, what does it cost to advertise, how many restaurants do I estimate there are, when is it for me? do you want to go on television? We now have much more ... We can substantiate that much better, we can make a much more balanced decision. (Interviewee 2, B)

Sustained High Growth

Increased speed: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Faster implementation	"But we have that one company, one platform approach that we really say, we want just one platform. If we innovate in one country, it should be a feature which should be used in all countries. That makes us way more efficient on that side … and I think we would even be able to implement it faster, because our IT resources is for everyone rather than we having to prioritize then which country gets the resources first" (Interviewee 3, B)
	"I think this whole centralized scalable model is really different. I have previously worked in several companies, but I have never seen as extreme implementation as here. … The fact that you do not work with country structures, which means you also have less transactional hassle, because you don't have to be convinced in a team, this is really better or- We never have problems for example also, I know, best practices or roll out quickly. Because that just happens automatically within those teams" (Interviewee 7)
Faster decision making	"So, you're going to say, you know what? Tomorrow there will be a football match, you know that there- That there will be x number of orders, let's say one hundred. And say ok, there is a relationship between hamburgers and that football game - people who go to such a game. I'm going to do my marketing on this group in that region, I'm going to give it a little extra. So without an employee in between. That you make the decision-making process happen automatically" (Interviewee 6)
	"But I think the people can still feel if the organization really wants to do somethings, then we can still act fast on certain things. And I think that's also remarkably for startups, but which we also are in a position still, that we can still act very fast." (Interviewee 3, B)
Faster integration	"Where we used to say, well, you're probably doing some good things, so let's get a good idea of what those good things are and then we'll implement that, now it's just said, sorry, we don't have time for that …And people don't always like that, because then they go, yes, but we really do this much better than Takeaway. And that's right, that could be. Only yes, if that then takes us a year and a half further, with integration, then that is a very bad idea. Because then you have argued with each other for a year and a half and then, well, you still have two teams. And then you don't get it all in the right direction. So, we have become somewhat rücksichtsloser in our approach. From, well, guys, this is the right way" (Interviewee 1, F)
	"That Delivery Hero integration is actually not normal. We did that in just six months. … There is actually no discussion either. We just do it as we say it's going to happen … So that is an advantage. And I also think that we simply, that- It also has a very big advantage that we are managed fairly centrally. It's just- That's what we're going to do. And then it goes- Then it can go fast." (Interviewee 13)

Sustained High Growth

Economies of growth: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Increased returns on resources	"But we said it might make sense to join forces with Takeaway to become even stronger. And Takeaway used its funds to grow in Germany. But they were the number four players, so they didn't have big footprint in Germany, so for them, the combination was great, because they also had quite some losses in Germany, and if you combine the two businesses, we could spend the same amount of marketing on the combined, just on one brand, which is way more efficient" (Interviewee 3, B) "So adding more and more restaurants and getting also to a penetration level of eighty percent makes marketing way more efficient. It makes new customers convert better, and it makes existing costumers place more orders, because if your favourite restaurant is not on the marketplace, you might still order with that favourite restaurant on some other platform or directly with the phone" (Interviewee 3, B)
Increased communication efficiency	"let's say for example, I see the sales numbers in Germany is not good, then it's the responsibility of sales director. And I tell them, hey, what's going on in Germany and then he should solve it. There's no head of Germany or I'm not the head of Germany, so I'm going to the sales director and tell him, what's up with the sales team, so is something in customer service is not right, I go to the customer service director and then he has to go to the country level. But this is the more better and efficient way to run it, because that keeps us in control way better than if it would be run in a more decentralized operations" (Interviewee 3, B)

Sustained High Growth

Network effects: Selected evidence on second-order theme

First-order codes	Selected evidence on first-order codes
Increased customer retention	"So app usage first of all, I mean, if you have already the app installed, you have a stronger engagement, and like you just need to open up the app, it's very easy and smooth, and we know that, it's a bit self-fulfilling, but still people who have installed or have ordered with the app order, in general two and a half more frequent, which is a bit of a self-fulfilling thing, because people who have already installed the app have in general already ordered more frequently before they installed the app, so it's a bit like self-fulfilling, but still, they order more frequently" (Interviewee 3, B) "While we increased new consumer growth substantially, we also increased consumer retention, as evidenced by the increased number of Active Consumers and the higher number of Orders per Returning Active Consumer. Key drivers behind this include increased app adoption and the success of re-activation campaigns" (Annual Report, 2017)
Increased restaurant offer leads to increased consumer orders	"We benefit from powerful network effects as the number of consumers and restaurants on our marketplace is growing continuously (Fig. 2). As the number of consumers increases, more orders and higher gross merchandise value are generated, attracting more restaurants to our marketplace, which enhances and diversifies the offering, in turn attracting more consumers. In addition, the network effects result in an increasing average number of orders per restaurant, despite the growing number of partner restaurants. The self-reinforcing nature of these network effects helps us to sustain our market leadership and ultimately enhances profitability." (Annual Report, 2017) "So it is more convenient for us to have more restaurants, because more restaurants increases our revenue …. For the portal, the consumer side is really important. And of course, to serve that consumer side well, you also need restaurants" (Interviewee 1, F)

Chapter 5:
Designing Scalable Business Models: Lessons from Netherlands' most successful Scale-ups

5.1 INTRODUCTION

High-growth firms (HFGs), often referred to as scale-ups, are defined as organizations with at least 20% of annual growth rate in terms of revenue and/or employees over a three-year period, and with at least 10 employees in the base year (OECD, 2007). Studies show that HGFs are a main driver of job-creation and therefore play a vital role in the modern economy (Coutu, 2014; Du & Temouri, 2015). By establishing new business models and leveraging new technologies, high-growth firms bring about change and innovation in regional and national ecosystems (Jansen, 2019). Despite the importance of HGFs, research has shown that only a small proportion of about three percent of all firms is able to sustain these high growth numbers over time (Brüderl & Preisendörfer, 2000; Feindt et al., 2002; Lopez-Garcia & Puente, 2012). Accordingly, scholars recently started showing interest into the strategic characteristics of the organizations that are able to sustain high growth numbers over time (Demir et al., 2017; Jansen et al., 2020). Scholars have argued that scalability, which broadly refers to the ability to obtain and sustain profitable growth (Picken, 2017), is a specific characteristic of HGFs that set them apart from other growing organizations (DeSantola & Gulati, 2017). Firms that are able to develop scalable business models are able to sustain high growth rates over time, while firms that do not accomplish this are bound to fail (Zhang et al., 2015).

Within the business model literature, scalability is argued to be a critical characteristic of successful business model innovations (e.g. Amit & Zott, 2001; Casadesus-Masanell & Ricart, 2011). New entrants that design scalable business models bring about disruptive change in established industries and hereby challenge and outclass traditional business models (Markides, 2008; Teece, 2018b). Uber and Netflix are well-known examples of successful scalable business model designs. Both firms were able to achieve and sustain high growth numbers by introducing innovative business models into traditional industries (Ahuja & Novelli, 2016; Sorescu, 2017). However, far from all firms are able to sustain rapid growth, even if their business model is new to the industries they enter (Foss & Saebi, 2017). One example is Pets.com, the firm that was among the first online pet stores, founded in 1998. After the foundation, they grew tremendously fast and only two years later they raised 82,5 million dollar during the IPO in 2000 (Weil, 2001). Despite its high growth rates, Pets.com never managed to capture the value they intended to create due to their immense marketing and delivery expenses and failed to become profitable. Therefore, Pets.com did not manage to sustain their high growth and only one year after their IPO, they went out of business (Hirakubo & Friedman, 2002). These examples indicate that innovativeness alone does not explain the success of business model innovations. It is the degree of scalability that explains why firms are able to sustain high growth and bring disruptive change into established industries (Casadesus-Masanell & Ricart, 2011; Markides, 2008; Nair & Blomquist, 2019).

Taken together, research has shown that firms need to design scalable business models to not only achieve, but also sustain high growth over time (DeSantola & Gulati, 2017; Mom, 2019). Yet, despite our understanding of the importance of scalability, academic research in the field of business and management has barely touched upon this topic and existing literature fails to explain how HGFs should design their value creating and capturing activities to facilitate and manage high growth over time (Mom, 2019; Simsek et al., 2017). This is a crucial omission because a thorough understanding of high-growth firms requires in-depth understanding of the key characteristics of scalable business models (Jansen et al., 2020). As such, there is a clear need for insights about how HGFs configure their business model elements in order to ensure long term scalability. In this study, we therefore ask: *how do high-growth firms design scalable business models that enable them to create and capture value over prolonged periods of high growth?*

To address this question, we study the business models of three of the most successful high-growth firms in the Netherlands. We adopt a qualitative multiple case study approach (Eisenhardt, 1989) and analyze in-depth field and archival data from multiple sources, including founders and CEO’s (Snihur & Zott, 2019). Because in each case firm the founder was still present, we were able to track the business model design configurations over the entire lifespan of the organizations. Building on the business model activity perspective (Massa et al., 2017; Zott & Amit, 2010), our findings provide in-depth insights into how the core business model elements are configured in scalable business model designs.

Our findings suggest that scalable business models are characterized by their *Digitalized Activities* (content); the *Reinforcing Network Effects* (structure) that links stakeholders and product/service groups in such a way that there is a reinforcing effect which creates an upward spiral of growth; and the *Integrated Control* (governance) which implies that strategic activities are internally managed by the focal firm. Moreover, our findings illustrate how the most successful HGFs architect these elements in conjunction in order to ensure long term scalability.

We make several important contributions to the literature. By zooming into the core elements of scalable business models we move beyond the more generic and static business model design themes (Zott & Amit, 2010). Rather than labeling the business model as a whole, our findings provide an understanding of how the specific characteristics of each BM element facilitates scalability. By doing this, we not only identify themes that make a BM design successful, but also suggest ways in which firms can design their BMs to ensure value creation and capture over time. Hence, we make an important contribution to the literature on HGFs, a small though important proportion of firms of which we know little about their strategic characteristics (Rindova, Yeow, Martins, & Faraj, 2012; Senderovitz, Klyver, & Steffens, 2016). By revealing the configurations of scalable business models, our research provides important lessons of how managers design and refine scalable business models to enable value creation and capturing over prolonged periods of high growth.

5.2 THEORETICAL BACKGROUND

As the business model construct has attracted significant research attention, various business model perspectives have been developed (Massa et al., 2017; Ritter & Lettl, 2017). In this study, we rely on the perspective of business models as attributes of real firms i.e., the stream of research that describes how firms create and capture value (Massa et al., 2017). This stream of research, also referred to as the activity perspective (Zott & Amit, 2010), describes the underlying logic of creating and capturing value and is key for understanding a firm's business model (Ritter & Lettl, 2017). The business model as an activity system is defined as "a boundary-spanning activity system that centers on a focal firm, yet may encompass activities performed by its partners, suppliers, and customers in the pursuit of value creation and capture" (Snihur & Zott, 2019: 5; Zott & Amit, 2010). In line with this definition, Teece (2010) argues the business model to be the architecture of the firm's activities. This means that the business model is not a mere list of activities for creating and capturing value. Rather, the architecture specifies the interdependencies and functional relations among the activities in the system (Foss & Saebi, 2017).

Following this perspective, the business model composes of three core elements; content, structure and governance (Amit & Zott, 2001; Saebi & Foss, 2015; Zott & Amit, 2010). Content refers to the selection of activities that are performed within the system. This could be summarized as the 'what' question of the business model, 'what activities does the firm perform?'. Structure describes how the activities are linked and refers to the architecture of the firm's activities. As Teece (2010) describes, it is about mapping the functional relationships among and between the activities. The BM structure element thus makes the business model a dynamic concept, rather than a mere static representation of activities, and could be summarized by the how question, 'how are the activities linked?'. Governance refers to who performs the activities. The focal firm has to decide whether it wants to outsource particular activities to third parties or to conduct them inhouse (Christensen, Bartman, & van Bever, 2016; Zott & Amit, 2010). The focal firm could decide to outsource certain activities to for instance, IT partners (Timmers, 1998), customers (Hedman & Kalling, 2003), or via alliances (Foss & Saebi, 2015). For each activity within the system, firms have to answer the 'who' question, 'who performs the activities?'. The combination of the three elements describes how firms do business and create and capture value (Saebi & Foss, 2015; Zott & Amit, 2010). The questions; ***What*** *activities should be performed?*, ***How*** *should they be linked and sequenced?,* and ***Who*** *should perform them, and Where?*, cover the most important aspects of the BM and can thus be framed as the BM design from an architectural activity perspective (Zott & Amit, 2010).

Building on the activity perspective of the business model, scholars have identified specific design themes that explain the dominant value creation drivers of the business model (Amit & Zott, 2001; Zott & Amit, 2010). Zott and Amit (2010) summarized these design themes by the acronym NICE, which refers to Novelty, Lock-In, Complementarities, and Efficiency. The NICE design framework has been extensively used in scientific research to explain the value creation logics of business model designs (Amit & Zott, 2015; Frankenberger & Sauer, 2019; Gerdoçi, Bortoluzzi, & Dibra, 2018). A number of studies have addressed the business model design themes as the dependent variable (Amit & Zott, 2015; Frankenberger & Sauer, 2019). These studies have investigated internal and external drivers such as goals, templates, environmental stimuli and managerial cognition as antecedents of particular BM designs. Others have looked at novelty and efficiency oriented designs and their effect on BMI capability development (Hock et al., 2016). Ultimately, studies have focused on performance differences between the business model design themes (Balboni, Bortoluzzi, Pugliese, & Tracogna, 2019; Zott & Amit, 2007), empirically showing the positive effect of mainly novelty and efficiency on firm performance. While these studies provide valuable insights, they provide a rather static view on business model designs. Namely, they do not consider size and therefore fail to explain how business models cannot only achieve successful performance, but also keep performing successful while growing bigger. Scalability, which is about achieving profitable growth, therefore is a fundamental consideration for organizations when designing and refining their business model (Nielsen & Lund, 2018).

Research on scalable business models, however, is sparse (Frankenberger & Sauer, 2019). Only a limited number of studies has addressed the notion of scalable business models and the literature lacks congruence on what business model scalability actually is (Hagiu & Rothman, 2016; Nielsen & Lund, 2018; Zhang et al., 2015) In the business context there seems to be no generally accepted definition of scalability (Stampfl, Prügl, & Osterloh, 2013). Nevertheless, the primary understanding of scalability is strongly related to the ability of an organization to achieve and sustain profitable growth (Nielsen & Lund, 2018; Picken, 2017; Stampfl et al., 2013).

Since the business model has been defined as an activity *system*, building on the notion of scalability in the system literature may help us to define business model scalability. In the software and manufacturing system literature, scalability has been widely addressed, as it is regarded as one of the most important qualities of systems (Duboc, Letier, & Rosenblum, 2013; Koren, Wang, & Gu, 2017). In the software system literature, scalability has been defined as "the ability of a system to maintain the satisfaction of its quality goals to levels that are acceptable to its stakeholders when characteristics of the application domain and the system design vary over expected operational ranges" (Duboc, Letier, & Rosenblum, 2013: 119). Koren and colleagues (2017) in their study on the scalability of manufacturing systems argue that scalability enables the option of upgrading the system in a cost-effective and timely manner when throughput increases. They argue that scalable systems are able to scale-up *rapidly*, *incrementally* and in a *cost-effective* manner (Koren & Ulsoy, 2002; Koren et al., 2017). These definitions indicate that systems are scalable if they are able to (1) maintain the desired quality while (2) increasing in size and do this in a (3) rapid and (4) cost-efficient manner.

When this is translated to the business context, scalability thus seems to refer to the ability of a business to grow rapidly without diminishing its quality goals and while doing this increasing its profitability (Dudnik, 2010). For business models this implicates that while growing rapidly, the desired value creation should be maintained or enhanced. Furthermore, while doing this, the created value should be captured by increasing profitability. This means that firms should monetize the created value by maintaining or decreasing the relative resources needed, that is, minimizing the additional resources needed to create this value (Zhang et al., 2015). This poses important challenges for the architecture of a focal firm's value creation and capture logic. Namely, extra supporting activities (and thus resources), such as extra customer service agents, more delivery employees, etc., are often times needed to 'solve' the challenge of maintaining value creation while growing bigger. However, adding resources creates challenges of increasing profitability because the incremental costs are difficult to monetize by the focal firm (Datta, Dutta, Thomas, & VanderMeer, 2003). Hence, in order for a business model to be scalable, resource addition should be minimized while at the same time the created value maintained.

An important part of business model scalability thus relies in the ability to increase returns on resource input (Nielsen & Lund, 2018). That is, adding additional resources creates higher output than the sum of investments, and hence increases the efficiency of resource use (Datta et al., 2003; Zott & Amit, 2007). Nielsen and Lund (2018) add that more ideally, scalable business models should *accelerate* returns on input. This is important as it helps organizations to grow exponentially. Namely, with the same amount of resources, higher growth rates will be generated and as the organization grows, this will lead to further reinforcement of the absolute growth numbers (Arthur, 1988).

Arthur (1988) in his work on technology markets states that scalability can come from several sources and he identifies five sources that are especially relevant for enhancing scalability; learning by using, network externalities, scale economies, informational increasing returns, and technological interrelatedness (Arthur, 1988, 1989). Besides this non inclusive list, other established concepts such as economies of scope and standardization can help to explain how the degree of scalability in the business model can be enhanced (Zhang et al., 2015). However, these concepts provide little insight into how firms orchestrate their activities to create value and at the same time monetize this value in a profitable manner, over prolonged periods of growth. Namely, while economies of scale, for instance, can increase efficiency and hence allow the firm to capture value, it explains little about how firms are able to create additional value for their stakeholders. How firms exactly achieve this has yet to be addressed in the literature (Mom, 2019).

In sum, scalable business models allow a firm to maintain or enhance the desired value creation in times of rapid growth. While doing this, the created value should be captured by increasing profitability by the means of increasing returns on resource input. Taken together, we define business model scalability as follows:

"Business model scalability is the extent to which a business model design enables the focal firm to maintain or enhance the desired value creation while at the same time minimizing the relative resources needed in times of rapid growth".

5.3 RESEARCH METHODS

The aim of this study is to identify how high-growth firms design and refine scalable business models. Given the limited theory and evidence concerning our research question, we chose to adopt a multiple-case study research design (Eisenhardt, 1989). The multiple-case method allows us to follow the replication logic in which emerging insights are tested within each additional case (Eisenhardt, 1989; Yin, 2014). It also allows us to elaborate theory by building on extant business model literature (Gehman et al., 2018). Moreover, the in-depth qualitative approach suits the research best because of the complex and dynamic nature of the business model (Eisenhardt & Graebner, 2007; Frankenberger & Sauer, 2019).

5.3.1 Research setting and case selection

As the scalability of their business model is important for the sustainable growth of organizations (Nair & Blomquist, 2019), the setting of our study are high-growth firms. HGFs are defined as organizations with at least 20% of annual growth rate in terms of revenue and/or employees over a three-year period, and with at least 10 employees in the base year (OECD, 2007). To select our cases, we consulted the Scale-up Dashboard that contains an annual list of the 250 most successful HGFs in the Netherlands. The data for the Dashboard is collected by The Erasmus Center for Entrepreneurship and Rotterdam School of Management, Erasmus University. All organizations on the list comply with the above-mentioned definition of high-growth organizations.

As only a small part of all organizations is able to achieve high growth and turn into a scale-up, purposive sampling has been used in the case selection procedure to achieve comparability between the cases under study (Teddlie & Yu, 2007). We carefully selected three cases from the list for several reasons. First, to ensure comparability of cases, we selected cases that introduced a new business model with an important online component to the industry they entered. However, the HGFs from our sample all have different business model archetypes. This allowed us to move beyond the characteristics of specific business model archetypes and focus on the scalability of the underlying key elements. Second, to ensure similarity in both economic and legal context, we selected cases that were founded in the same time period and geographic market. All our cases have been founded between 1999 and 2000 in the Netherlands which allowed us to keep environmental and geopolitical influences constant (Snihur & Zott, 2019). Third, we mitigated industry effects by selecting three firms all operating in different industries. This allowed us to focus on the common internal sources of business model scalability, rather than external influences. Fourth, we looked for exemplary cases that had a proven record of scaling-up (Eisenhardt & Graebner, 2007). We opted for cases that were in the top ten of the list, ranking them amongst the most successful high-growth firms in the Netherlands. Finally, we looked for cases that still retain their original founder(s) who could offer unique insights into the business model configurations over the entire lifespan of the organization.

5.3.2 Case descriptions

Based on the above-mentioned characteristics, we selected three high-growth firms for our study. In the following section, we briefly present our cases. For an overview of the business models of the sampled firms see table 5.1.

Food. Founded in 2000 in the Netherlands, *Food* grew out to become one of world's leading food-order sites. Operating on an international scale, all their websites combined cover around 30.000 associated delivery restaurants. With a two-sided platform business model *Food*'s core focus is to make online food ordering accessible for everyone, customers and restaurants. The unique aspect of *Food* is their one company, one brand, and one platform approach they apply across all geographic markets. *Food* takes pride in developing and maintaining the world's best food ordering site.

E-commerce. Founded in 1999 as a college start-up in the Netherlands, *E-commerce* grew out to become one of the biggest online enterprises in the Netherlands and Belgium. Ever since they started in 1999, the company has one clear goal in mind: to make customers happy. *E-commerce*'s uniqueness relies in their obsessive focus on improving the customer journey that helps to increase the customer satisfaction. To accomplish this, within the field of consumer electronics they wandered into over 300 different product groups, opened nine physical stores, started their own delivery service, and provide installation and repair services.

Recruiter. Founded in 2000 in the Netherlands, *Recruiter* connects high-educated, young talent to employers. They believe that young talents are the drivers of innovation and therefore stimulate organizations to utilize this strength. The unique aspect of *Recruiter* is its central database, in which data of thirty niche-job boards and websites (every single one specialized in the target group young talent) are bundled. The database gives access to a total population of more than 6 million subscribed candidates with which *Recruiter* covers the whole Netherlands and has the biggest network of Europe.

Table 5.1 Business Model Overview of the case firms

	Food	E-commerce	Recruiter
Overview	Two-sided platform business model that connects food (delivery) restaurants with customers Capture value by charging restaurants a commission percentage per order	Originally e-commerce business model of consumer electronics Capture value by selling consumer electronics to consumers above purchase price	Originally online recruitment agency business model that connects vacancies with candidates Capture value by charging companies a commission percentage per placed candidate
Content	Online platform that bundles (delivery) restaurant offer; biggest restaurant offer available in key markets; provides an easy ordering process for consumers	Online overview and information providing of consumer electronics; strong focus on improving customer journey; expert advice to help clients find the right products	Online platform with overview of available vacancies; large database of candidates to draw from; personal guidance of recruiters in matching process
Structure	Connects restaurants with consumers via online platform	Online platform connects suppliers of electronic goods with consumers	Connects candidates with corporate clients' vacancies
Governance	Restaurants provide information on the platform; customers solely order using the platform; platform is managed internally	Clients conduct product search; internal management of stock, website offering, and guiding clients through customer journey	Clients apply for vacancies online; recruiters responsible for matching; internal vacancy and platform management

5.3.3 Data collection

Following the guidelines for multiple-case study research, the data has been collected from a variety of sources (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Our main source of data was interviews with key informants in the organizations. We conducted interviews with key informants at various levels of the organizations, including founders, board members, senior managers and middle managers. Relying on multiple informants at various levels allowed us to triangulate findings (Miles & Huberman, 1994). A particular strength of our study is our access to the founders. As the founder of each of our case firms is still present in the organization, we were able to track the business model decisions over the entire lifetime of the organization. Furthermore, we used archival data such as internal documents and handbooks and publicly available data such as yearbooks, press releases, media coverage, among others, to complement and triangulate our findings. A particularly valuable secondary data source are the case studies that are written about the firms. Using different sources of data is important for enhancing the reliability and richness of our insights (Yin, 1984). In total, we conducted 33 interviews and collected 1,574 pages of archival material. For an overview of the data sources used in this study and the interviewees' positions, see Table 5.2 and 5.3.

Table 5.2 Case description and summary of data collection

Characteristic	Food	E-commerce	Recruiter
Description	Online food delivery company	E-commerce and delivery firm	Recruitment agency
Founding year	2000	1999	2000
Number of employees	5632	3628	1300
Revenue	240 million euros	1.35 billion euros	465 million euros
Growth rate	88%	32%	55%
New jobs created	2272	1557	944
Number of interviews	12	10	11
Duration of interviews	21 – 103 minutes 59 minutes on average	25 – 100 minutes 64 minutes on average	44 – 83 minutes 56 minutes on average
Transcript pages	176	154	155
Archival data sources	Teaching case Annual reports Company communications Corporate website Press releases & coverage	Teaching case Yearbooks Videos Press releases & coverage Corporate website	Teaching case Video & audio Press releases & coverage Corporate website
Pages archival data	886 pages	438 pages; 3:30 minutes (video)	250 pages; 25:24 minutes (video and audio)

NOTES: Company data from the year 2018; all interviews are recorded and transcribed.

Table 5.3 Overview of interviewees' positions

	Food	E-commerce	Recruiter
Position interviewees	Founder-CEO Chief Financial Officer Chief Technology Officer Chief Marketing Officer Chief Operating Officer Director of Human Resources Director of Operations Director of Customer Service Director of Sales Director of Product Development Director of Data and Analytics Manager of Investor Relations	Founder-CEO Chief Strategy Officer Head of Customer Service Head of Delivery Head of Assortment and Pricing Head of Online Marketing Head of Returns Head of Organizational and Employee Development Head of Physical Stores Head of Sales and Marketing	Founders (3) CEO Chief Information Officer Chief Technical Officer Operational Director Commercial Director Head of Marketing and Communications Director of Human Resources

We conducted two formal waves of interviews with key informants of each of the case firms. The first formal wave of data collection (2018) was to understand the most important challenges of the firms related to their fast growth. During the first wave of interviews we conducted a total of 13 interviews that lasted 756 minutes (12 hours and 36 minutes) in total. Each interview was semi-structured, lasted on average 58 minutes, and was recorded and transcribed immediately after. We started with founders and top managers which are considered to be most knowledgeable about the business model design of their firms (Teece, 2010). In the first round of interviews, we started with predetermined questions to determine the most important challenges of HGFs. Questions such as “what are the major challenges you face during fast growth?” and “how do you address those challenges?” were included. The second part of the interviews was less structured and allowed us to pick up on emerging themes. This is how we noticed the importance of business model scalability for sustaining high growth over time. Following the snowball technique (Biernacki & Waldorf, 1981) we identified further organizational members that were knowledgeable of the business model activities at the more operational level. This allowed us to further capture the perspectives of organizational members that were involved in both the strategic and the operational level of the organization.

A second formal round of interviews allowed us to fill in gaps and to zoom in to certain topics that emerged as important during our first round of data analysis. In this second wave of data collection we spoke with founders, senior managers, and middle managers. By relying on multiple informants at different organizational levels for each case, we mitigated subject bias (Miller et al., 1997). In total, we conducted 20 interviews that lasted in total 1,211 minutes (20 hours and 11 minutes) in this wave of data collection. Each interview was semi-structured, lasted on average 61 minutes, and was recorded and transcribed immediately after. To further ensure data validity, we limited the interview questions to facts, events and decisions, in order to reduce the potential influence of retrospective bias (Eisenhardt, 1989; Eisenhardt & Graebner, 2007).

Finally, in a third round of data collection we collected in-depth archival data that helped us to triangulate our findings (Glaser & Strauss, 1967). These documents included annual reports, company communications and legal documents, teaching cases about the company, and publicly available data such as press coverage including press releases, and audio and video coverage about the firms. A total of 1,574 pages of archival data was consulted and analyzed. Triangulation by relying on different data sources allowed us achieve higher reliability and richness of the emerging insights (Jick, 1979). Table 5.2 provides a detailed overview of the data that has been used.

5.3.4 Data analysis

We used an iterative process of data analysis, going back and forth between data and literature (Miles & Huberman, 1994). First, thickly descriptive individual case histories were created by triangulating our interview and archival data (Snihur & Zott, 2019). The case narratives focused on the configurations of the business model elements (content, structure, and governance) to form a more complete understanding of the business model designs of our case firms. We focused on data that could be corroborated from multiple data sources in our narratives (Hannah & Eisenhardt, 2018). We started developing the case narratives after the first wave of interviews. When data was missing, we revisited our data and obtained additional information in the second wave of interviews or via archival material.

To further enrich our understanding of the business model design configurations, we coded and recoded all of our data per individual case in an ATLAS.ti database. In this phase of data analysis, we coded and recoded the data in several iterative rounds, hereby creating empirical codes (Corbin & Strauss, 2014). In developing these codes, we used the constant comparison method (Strauss & Corbin, 1998) to capture our emerging understanding of the factors that supported our cases to design scalable business models. To link our insights to the existing business model literature, we iteratively moved between data and theory (Mantere & Ketokivi, 2013) and linked our empirical codes to the key elements of the business model.

After analyzing the business model designs of the individual cases in-depth, we compared the cases by focusing on similarities and differences, applying both within and across case comparison (Eisenhardt, 1989; Miles & Huberman, 1994). We relied on the replication logic to assess whether our research findings could be confirmed across cases (Yin, 1984). Consequently, we only retained codes that applied to all cases. We further went through recursive cycling among the case data, emerging theory and extant literature to further refine our theoretical insights (Eisenhardt & Graebner, 2007). During this analytical phase, we refined our empirical codes and grouped them into theory-based groups related to the business model content, structure and governance elements. We reached the point of theoretical saturation where all major categories were integrated and no new insights emerged from our recursive cycling (Corbin & Strauss, 2014).

5.4 EMERGENT THEORETICAL FRAMEWORK

Our emergent framework identifies the key characteristics of the core elements of scalable business models. By building on prior business model literature, we find that the content element is characterized by its digital nature, which we label as *Digitalized Activities*, the structure element by its *Reinforcing Network Effects*, and the governance element by its *Integrated Control*. By focusing on three of the most successful HGFs in the Netherlands, our analysis reveals how these firms design the BM elements in conjunction in order to be able to scale-up their business models. Our analysis moves beyond the identification of characteristics and provides an architectural business model understanding of *how* the core elements are linked and sequenced in order to create and capture value. Inspired by Hannah and Eisenhardt (2018) we provide a theoretical summary of our findings after discussing each individual business model element. We believe that this novel structure increases the readability of this study. In line with Snihur and Zott (2019), we explain each empirical insight focusing on a concrete example of one case for the ease of exposition. For systematic evidence from all cases, see Table 5.7 in the appendix**.**

5.4.1 Content: Digitalized Activities

The content element refers to the value creating and capturing activities of the business model (Snihur & Zott, 2019; Zott & Amit, 2010). A key insight in our analysis is that the digitalized nature, which we label as *Digitalized Activities*, of activities enables HGFs to scale-up their business models. Namely, the digitalized activities allow them to collect information, analyze it and hence learn and increase the speed of their operations. This enables the firms to create more value by better matching their activities with the interests of their stakeholders. It also allows them to capture more value by lowering cost, increase the speed of adaptation, and increase the effectiveness of decisions.

Online presence. While the industries in which they operate differ, a similarity between the business models is that all case firms were amongst the first to introduce a business model with an important online component to the industries they entered. All firms were able to build a strong online presence, meaning that they rank high in the online search results. Because of the online visibility scores, the firms are amongst the first to pop-up in Google, the most used search engine at the moment. This enables them to attract customers to their websites without additional marketing costs, making it an important source of their scalability. *Recruiter* illustrates:

> *"We only look at our online visibility and our online visibility score. … It was from the start and it still is today. … For instance, our online visibility score is like sixty per cent. The market leader, Randstad, has like fifteen per cent. And Adecco, who was the market leader, only has a visibility score of two per cent. So, we know, and I know it's going to take a long time, but we know in the end we will win from these companies, because we have a huge advantage." (Founder 1, Recruiter, Interview)*

Database. Another important advantage of the online presence is the possibility to collect data and build, and constantly expand, a database in which important information is collected. The amount of data that the firms are able to gather as a result of their online presence considerably exceeds the amount of data their offline competitors are able to collect, and hence has become an important source of competitive advantage. *Recruiter* built a database by letting their clients register online when applying for a position. An important scalability advantage thereof is that, in contrast to the labor-intensive traditional way of face to face candidate registration, no manual labor is required for *Recruiter* during this process. What is more, even in the case that the candidate did not match with that particular position, *Recruiter* was able to store detailed information about each candidate in a database. Cumulatively building a database with applicants was important for their business model scalability as it enabled a faster process of candidate placement, their key value creating activity, for subsequent vacancies. Namely, Recruiter could speed-up the process of candidate search by drawing on their database with candidates and hence lowered cost because employee productivity increased.

> *"We have the resumes of the candidates in our database very soon so, okay, which type of guys are you looking for? Well, okay, we have for Rotterdam for that vacancy, we have like fifty to a hundred students already applied on these kinds of jobs, subscribed last week so" (Founder 2, Recruiter, Interview)*

Data analytics. The HGFs in our study all developed strong data analytic capabilities i.e., the ability to analyze the gathered data in order to come to advanced insights. By analyzing the gathered data in the database, the case firms were able to increasingly gain better insights into the environment, their customers, and their operations. This is an important source of scalability because when the organization grows, more data is gathered, and subsequently better information can be generated. Data analytics is thus an activity that is reinforced by growth and allows the HGFs in our sample to continuously improve their operations supported by real-time data, leading to increased value creation.

E-commerce developed a matrix organizational structure in which the data science department on the vertical axis crossed with each functional department on the horizontal axis of the organization. By doing this, they ingrained the functional departments with data driven intelligence which allowed these departments to make faster and better-informed operational decisions. For instance, the marketing department was informed in detail about real-time trends in consumer behavior as well as the price fluctuations of competitors. Hence, the department was able to quickly adjust its marketing strategy to the current circumstances.

> *"What it implies is like the small, is a very complex nowadays data science driven, AI-driven- A shitload of technology is here about pricing, sales marketing bidding and buying conditions. And then that's here. Traditional retailers cannot follow in the complexity that's within. This is like where literally twenty data scientists work on at [e-commerce] fulltime, ... it's like the amount of intelligence here is insane" (CEO, E-commerce, Interview).*

Data driven decision-making. An important strategic decision-making activity that is present in each HGF of our sample, is the data driven decision-making approach. This refers to always supporting decisions with data, rather than making decisions based on gut feeling. This is an important source of scalability for a number of reasons. First, it is a control mechanism that allowed the board to give lower level managers more autonomy in operational decision making. Namely, their decisions will be based on the specific data that the firm decided to collect and provide to the specific departments. The optimum decision presents itself by analyzing the data, making the decision-making process easier, faster and more accurate.

In the case of *Food* this process is referred to as "data democratization" (Director of Data & Analytics, *Food,* Interview). Within the organization, the departments are provided with the information that is relevant for them. By providing very specific information, the departments are then able to make fast day-to-day adjustments that allows them to constantly keep up with the increased complexity that results from scaling-up (DeSantola & Gulati, 2017).

> *"So, ensuring that everyone has access to that information to be able to look at it, what happened yesterday? What is in which country? In which city? Which zip code even. What type of customer? Well, you can't think of it that crazy. But ensuring that everyone has access to it. ... And actually - My motto is: Everyone within the organization must make choices based on data, on numbers, rather than on a gut feeling" (Director of Data & Analytics, Food, Interview)*

Automation of processes. Another emerging theme related to the content element of the business model is the automation of processes. All HGFs in our study automated activities mainly by digitizing them. This resulted in efficiency advantages in their business model (Zott

& Amit, 2007). While some activities were digitized from the beginning, others were automated when the firms realized that efficiency advantages could be obtained.

An important department in the organization of *E-commerce*'s is the online marketing department. At its peak, they had forty full-time online marketers calculating and implementing the right bids for their Google advertisement campaigns. As the organization scaled-up, they realized that it was a labor-intensive activity that could be done more efficiently if it was automated. Also, they realized that machine learning improved the effectiveness of this task, hereby increasing the created value. By automating the activities related to Google advertisement, they were able to scale-down the department of forty employees to none, while at the same time increasing the performance levels of the activities. Hence, the automation of this process was an important source of the scalability of their business model.

> *"If you look at all the bid modifiers that we have. So, a bid modifier can be age, gender, customer, time, day or the minute, whatever. That's all, normally it was manually being calculated. And now all with machine learning and data scientists, they can just create a model and that's being real-time available to us, which is more accurate and more precise. So it's less work, once it works and the quality is better. .... So that's really helped us to scale down, but be much more productive and effective" (Head of Online Marketing, E-commerce, Interview)*

5.4.1.1 Theoretical summary

While all firms operate with different business model archetypes, the content element of the scalable business models of the HGFs in our sample is characterized by the *Digitalized Activities*. All firms have created a strong online presence which allowed them to collect data in a database. By building strong analytic capabilities, the firms are able to analyze the data and make fast and accurate data driven decisions that enables them to enhance the created value during growth. Moreover, automating operational activities enables them to lower cost while at the same time increasing the quality of output (see Table 5.4 for an overview).

An important theoretical insight is that the business model component can be scaled-up by digitalizing activities, even when the key value creating activities require manual labor. In the case of *Recruiter*, for instance, value is created by connecting candidates with vacancies and recruitment professionals do this by having conversations via phone, email, and face-to-face, with both parties. However, by improving online presence, creating a database, and automating the matching software, the recruitment professional is able to work more efficiently. This is an important insight as, in contrast to what prior studies suggest, it indicates that the scalability of *Digitalized Activities* in the content element applies to a broader set of firms than digital business models alone (Stampfl et al., 2013; Zhang et al., 2015).

Table 5.4 Business Model Content Element Design for Scalability

	Content Element Design	Impact on BM Scalability
Food *Content*	Online two-sided platform business model. Value is created for customers by offering big assortment of delivery restaurants, value is created for restaurants by attracting large number of consumers.	Online visibility increases number of visitors and hence data accuracy. Decisions therefore get more accurate. By automating processes, less resources are needed for same results.
Digitalized Activities	Platform ranks among top results in Google. Online presence allows them to capture data about consumer behavior on the internet. The data analytics department provides each department with real-time data and monthly training so they can themselves analyze and make decisions that are supported by data. Manual labor is minimized by automating as much repeating activities as possible.	
E-commerce *Content*	Online store with over 300 different product groups. Value created by strong client focused and constantly improving the entire customer journey.	Online presence enhances data collection that allows for constantly improving customer journey. The more they grow; the more data is collected, and the more accurate insights become. Automation allows for scaling-down manual labor while increasing effectiveness of activities.
Digitalized Activities	Online component allows them to capture data about consumer behavior online and department with data scientist constantly monitors developments and NPS of customer journeys. Matrix structure allows data science department to interfere in functional departments to steer decisions based on advanced insights. High degree of automation by building algorithms (for online marketing, warehouse efficiency, among others).	
Recruiter *Content*	Recruitment agency that searches for young talent for vacant positions in organizations. Value created for young talent by helping them to find the right position and for companies to find the right people for their open positions.	Online presence leads to higher number of applicants and hence a bigger database that enables them to find better candidates faster. The automation of matching software further speeds-up and improves the process leading to a faster and better value creation process.
Digitalized Activities	Online visibility results in high number of applicants for open positions. It also enables a faster registration process of clients and the collection of all information in a database. By analyzing the data in the database, they can foresee upcoming shortages faster than competitors and make decisions accordingly. By building automated matching software, candidates and vacancies are matched faster and more accurately.	

5.4.2 Structure: Reinforcing Network Effects

The structure element describes how the value creation and capture activities are linked and captures their importance for the business model (Snihur & Zott, 2019; Zott & Amit, 2010). In Teece's (2010) terms, the architecture of activities specifies the interdependencies and functional relations among the value creation and capture activities in the system.

A key insight from our analysis is that the HGFs in our sample structure their value creating activities in such a way that they create *reinforcing network effects* among them. Network effects, or network externalities, can be distinguished into two types: direct and indirect effects (Katz & Shapiro, 1985). Direct network effects refer to the situation where the number of users drives the value of a product or service directly. Hence, the higher the number of users, the higher the value of the product or service (Goldenberg, Libai, & Muller, 2010; Suarez, 2005). Indirect network effects "arise when the link between consumer utility and the number of users occurs through the variety of complementary products" (Gandal, 1995: 599). Firms can enhance these effects by, for instance, the development of complementary products for the same customer base (Tanriverdi & Chi-Hyon, 2008). One such example is the consumption externalities that arise from compatible hardware and software (Parker & Van Alstyne, 2005). Both types of network effects are considered to be an important source of scalability (Arthur, 1988; Hagiu & Rothman, 2016; Stampfl et al., 2013; Zhang et al., 2015), and have been proven to create a lock-in effect in the business model (Amit & Zott, 2001). Although network effects have conceptually been argued to be important for business model scalability, our study moves beyond current insights by empirically showing how these effects can be established into the business model structure element of scalable business model designs.

Reinforcement of value creating activities. An important insight from our analysis is that the HGFs create reinforcing links between their value creating activities. The case firms do this in two ways: (1) by establishing strong and interdependent links between product/service groups; and (2) by introducing value creating activities to strengthen the core.

Establishing reinforcing connections between product and service groups means that increased value creation in one product/service group, leads to increased value creation in adjacent product groups, and vice versa. *Food* illustrates this. In the first years of *Food,* their product offer consisted of mainly pizza, kebab, and other fast food restaurants. While this offering helped them grow over the years, the environment started to change because consumers started to opt for healthier alternatives. This triggered the adaptation of *Food*'s offering and they started to incorporate healthier alternatives into their assortment. Providing healthier alternatives did not only help them to create and capture more value in the 'healthy' product groups, it also helped them to increase the number of returning customers. Adding these product groups created a healthier image for *Food* which motivated consumers to order more often. This eventually led to an increase in orders from their 'unhealthy' product groups because their platform was used more often. By providing both product groups on the same platform, the product groups created additional value for one another.

> *"And it strengthens our network effect, because people are thinking about ordering food with [Food] even more, because the variety is larger, the offering is better, and that makes you think even more about food ordering, and we even have some signs that it might even accelerate the amount of orders you place with regular marketplace restaurants. Just because you think about food ordering way more often ... I mean, you can't eat kebab and pizza 300 times a year, but if the variety is much larger, you think about ordering with us way more often, so we see signs that this contributes in a positive way to the effects" (Chief Operating Officer, Food, Interview)*

Another important way to increase scalability in the business model is the introduction of value creating activities that strengthen the core. The firms all undertook entrepreneurial activities that, independently speaking, did not increase the scalability of their business model. *E-commerce* opened physical stores and started its own delivery service, *Food* started its own delivery network, and *Recruiter* opened physical offices and started its own academy. While the activities were different because of the differences in business model archetypes, all required additional resource input in the way of manual labor when the numbers increased. However, the HGFs established reinforcing links between their entrepreneurial activities and the core proposition of their business models and by doing this increased the created value.

E-commerce illustrates this in two ways. First, opening physical stores increased the number of sales online because it helped them to increase the trust consumers had in their brand. Thus, opening physical stores increased the value for their web shop. As the Head of Online Marketing notes:

> *"They didn't trust an online company. It was really weird. That really improved actually when we opened a physical store. Alright, you got a physical store, so now I can throw a stone at your window, so you're probably okay-ish kind of company now. Then we also see a conversion rate uplift online, because we have shops, which is still the case actually" (Head of Online Marketing, E-commerce, Interview)*

Second, the creation of their own delivery network enhanced the value creation of their business model. *E-commerce* strongly focuses on customer satisfaction, a value that is translated throughout the entire organization. In order to do so, one of the main focal area of *E-commerce* is the customer journey. Constantly optimizing and improving the customer journey is their key value creating activity and an important value proposition of *E-commerce*. When their data showed that their washing machine product group had a decrease in Net Promoter Score (NPS), their most important indicator for customer satisfaction, they started analyzing the customer journey of this product group. The analysis led to the realization that the problems with delivery were the major reason for the decline in NPS. Therefore, they started their own delivery network. The vertical integration of delivery significantly increased the resource requirements; however, it resulted in a clear uplift in NPS. This helped them to grow in the washing machine product group and capture a bigger market share. The increased customer satisfaction made customers more inclined to purchase other products at the firm because the perceived value for customers increased. Therefore, the entrepreneurial activities that strengthened their customer satisfaction, the core proposition of the business model, had a reinforcing effect in other parts of the business model. This increased the scalability because the total value creating effects on the activity system were higher than the sum of resource investments in the specific activity.

> *"If you're in the washing machine, hallelujah. Which is literally because we have this own delivery service. It's the customer journey with the highest customer satisfaction rate. We want to make sure that it is a gateway drug to the rest or our assortment. So, the funny thing for instance now, is that a washing machine is the most effective way to become your Apple friend" (CEO, E-commerce, Interview)*

The two ways of creating reinforcing effects between the value creating activities are not entirely independent. Rather, by introducing value creating activities that strengthen the core, more value is created for adjacent product/service groups as well. This consequently leads to an even stronger reinforcing effect. As the quote above illustrates, *E-commerce* created extra value for the washing machine product group by starting their own delivery service. Because of the value enhancing linkages with other product groups on their website, the firm managed to increase value not only in the focal product of interest, but for adjacent products as well.

Two-sided user reinforcing network effects. Another important insight from our analysis are the two-sided user network effects. These two-sided network effects are important for the scalability of the business model because they can create an upward spiral of growth (Hagiu & Rothman, 2016). This means that there is a virtuous cycle of increasing the value for stakeholders on one side of the business model leading to increased value for stakeholders on the other side of the business model, and vice versa. The HGFs increased the scalability of their business models by designing the structure in such a way that different 'users' are connected via the business model and that this leads to increased value for both of them. Hence, the HGFs established reinforcing linkages between stakeholders on various sides of their business model.

The two-sided platform business model of *Food*, that connects restaurants with customers, clearly demonstrates this. The network effect in this business model is presented as follows: when the number of restaurants increases, the value increases for consumers because the offer increases and consumers have a bigger chance of finding their favorite restaurant on the platform. On the other hand, when more consumers use their platform, for restaurants the value increases. Namely, more consumers lead to more possible clients for restaurants. This indicates that the BM is structured in such a way that increased value on one side of the business model leads to increased value on the other side of the business model.

> *"So it is more convenient for us to have more restaurants because then we will generate more revenue. But it doesn't really matter to the consumer. The consumer simply wants to have a certain choice, so also- There is of course much talk about portals and things like that. For the portal, the consumer side is really important. And of course, to serve that consumer side well, you also need restaurants." (CEO, Food, Interview)*

Recruiter has two key groups of stakeholders in its business model, candidates and corporate clients. When the number of vacancies and/or the attractiveness of vacancies increases on one side of the business model, it increases the value for candidates on the other side of the business model because they have more, and more interesting, options to choose from. On the other hand, when more candidates are subscribed into the database, for corporate clients it becomes more interesting to become part of the business model because the possibility to find the right candidate increases.

> *"The scalability of our business model was like the database [of candidates] combined with vacancies [of companies] because we need content and candidates" (Founder 2, Recruiter, Interview)*

Two important stakeholders in the business model of *E-commerce* are suppliers and customers. Their BM connects the two and creates added value by creating an optimal customer journey. Important here is that when the number of customers increases, they become an important partner of their suppliers and therefore have more bargaining power in their relationship with suppliers. This allows them to negotiate better conditions such as shorter delivery times, better prices, and better service conditions. By doing this, they can improve their customer journey even more and hence create more value for their customers. This then leads to increased customer loyalty and increased sales numbers. Because the numbers grow, their bargaining position in the negotiations with suppliers increases even further. As in the other two cases, *E-commerce* was able to create an upward growth spiral by creating these important network effects between the stakeholders in the business model, making it an important source of their scalability.

> *"But that also, one of the other interesting things is that when you're a small company and you sell HP laptops, then HP is going to tell you, this is how service works. When you grow and become a larger company, you can say, but we're [E-commerce] and this is how you're going to service our things" (Head of Returns, E-commerce, Interview)*

5.4.2.1 Theoretical summary

Even though the HGFs in our study created value in different ways, their business models were all characterized by the *Reinforcing Network Effects* that linked their value creating activities. All firms established reinforcing links between product/service groups in their business models and did this by being entrepreneurial to strengthen their core. What is more, the business models were structured in a way that they created direct network effects because different stakeholders reinforced the created value for one another. This increased the scalability of their business models because it accelerated returns on input. That is, the interdependent connections led to virtuous cycles of value enhancement between the strengthened core and other product/service groups and stakeholders, resulting in an upward spiral of growth (see Table 5.5 for an overview).

Our findings build upon prior studies that argued network externalities to be an important source of scalability (Amit & Zott, 2001; Zhang et al., 2015). By providing empirical insights into how HGFs were able to build scalable business models by establishing these network effects in their business model structure element we contribute to this stream of literature. An important theoretical insight is that by establishing network effects between value creating activities, the scalability of business models increased even though new value creating activities independently were not scalable. This is clearly illustrated in the delivery initiatives of *E-commerce* and *Food*. Independently, the activities were not scalable as an increased number of orders would lead to an increase number of human resources needed, hereby not complying with the notion of 'increased returns on input' of scalable business models. However, the externalities created by these activities led to increased value in other parts of the business model and therefore led to an increase in returns. This is important as it indicates that network externalities, in contrast to what prior studies suggest (Stampfl et al., 2013; Zhang et al., 2015), are sources of scalability also in organizations that are not entirely digital. Namely, also in business models that require much manual labor, network externalities lead to an increase in scalability by increasing returns on input.

Table 5.5 Business Model Structure Element Design for Scalability

	Structure Element Design	Impact on BM Scalability
Food *Structure*	Their two-sided platform connects restaurants with and without delivery service with consumers.	The reinforcement between customers and restaurants leads to an upward spiral of growth that is constantly stimulated. Namely, increased value for restaurants leads to more value for customers, and vice versa. Growth spiral 'outgrows' resource investments needed for growth because of reinforcing effect.
Reinforcing Network Effects	On one platform they offer the assortment of restaurants with their own delivery service and restaurants for which they provide the delivery service. Providing the delivery service enables a bigger assortment of 'healthy' products. Because both product groups are bundled on one platform, this subsequently leads to an increase number of orders for the other restaurants as the number of orders per client increases. More clients increase the value for restaurants (more orders) and more restaurants increases the value for customers (more options).	
E-commerce *Structure*	Bundling of different customer journeys (product groups) on one platform under one brand and linking suppliers with consumers.	The reinforcing link between customers and suppliers allows for constantly improving conditions and hence sustained value creation during growth. As product groups reinforce each other, no extra resources are needed to increase the number of orders, leading to a higher return on resource input.
Reinforcing Network Effects	Bundling different customer journeys under one brand leads to network externalities of improved customer journey. Namely, increased customer satisfaction leads to repeating orders across different product groups. Improved customer journey leads to increased number of orders. This increases bargaining power with suppliers and therefore they are able to negotiate better conditions which further improves the customer journey and hence orders.	
Recruiter *Structure*	Recruiter connects a big pool of young talent with open vacancies. They thus link candidates with organizations.	One side of the business model increasing the other side of the BM, and vice versa, creates an upward spiral that is reinforced by an increase on either side of the platform. This means that growth results in more created value.
Reinforcing Network Effects	Network effects between corporate clients and candidates in the organization. More available candidates increase value for corporate clients because they can find better candidates for the open positions faster. More available vacancies increase value for candidates because they have a bigger assortment to choose from and this increases the chances that they find a suitable position.	

5.4.3 Governance: Integrated Control

The governance element refers to who is in charge of the activities performed within the boundary spanning system of the business model (Snihur & Zott, 2019; Zott & Amit, 2010). Firms can either decide to outsource certain activities or to conduct them in-house. A key insight in our analysis is that the governance element of the business models of HGFs is characterized by its *Integrated Control*. By the means of integration and centralization, the HGFs establish an important control mechanism that enables them to manage the desired 'quality' of their activities. It also enables them to increase the speed of decision making and to make growth stimulating decisions by overseeing the bigger picture.

One company approach. An important insight from our analysis is that each organization operates using a one company approach. Throughout the growth trajectory, the firms acquired competitors, wandered into different product groups by building new websites, and created different web domains to increase their online visibility. These growth stimulating decisions led to challenges for the scalability of their business models for at least two reasons. First, by having different brands and websites, the firms were not able to further stimulate their network externalities because users and product groups were no longer connected within one value enhancing system of activities. Second, management was no longer able to oversee the bigger picture, hereby making it difficult to make fast decisions that led to a reinforcement of the network effects of their business model and hence growth.

To overcome this, all HGFs moved to a one company approach. One way they did this was by translating the scattered brand portfolio into one centralized brand. In the case of *Food,* the firm started with a singular brand. However, while expanding internationally, various brands were added to better fit the international markets they entered. As various countries succeeded each other, *Food* started to get a broad brand portfolio. In order to stimulate network effects and to emphasize the strength of their online platform, they decided to move to a single brand strategy and repositioned itself with an international brand name. In Germany, for instance, this meant a move from operating with two different brands, to operating with one brand. This increased the returns in investment because focusing on one brand helped them to stimulate the network effects. Namely, rather than having to divide the investments over two brands, investing it in one resulted in a stronger brand awareness. The increased brand awareness led to more direct visitors and this allowed them to lower the relative marketing expenditure per individual customer.

> *"But we actually managed to overtake the two individual brands, because they have never integrated the two brands. They're still separate brands, Lieferheld and Pizza.de. And by now, we're about twice the size of Pizza.de and twice the size of Lieferheld. So our market share by now is over 50 percent. And their combined market share is a little under 50 percent, but you can't really combine the market share, because the consumer doesn't perceive them as one brand. And in this business, it's all about network effects. And smaller brands don't generate the same network effects as the large brands" (Chief Operating Officer, Food, Interview)*

Besides the integration of brands, also their websites were converted into one centralized website. The centralization of the divided web portfolio of the HGFs helped them to increase speed considerably because updates and changes could be instantly diffused into all parts of their websites. This was a great advantage for scalability because prior to this decision, updates had to be done separately for each website and thus required more time and resources to obtain the same results. It also allowed the board to have a stronger control over their website (about which more in the next section), which was considered a key strategic asset of the organization. This characteristic is clearly shown in the case of *E-commerce*.

E-commerce started in 2000 by selling MP3 players. To do so, they registered the domain mp3shop.nl. When expanding the assortment, new domains were registered that helped them to explain the content of their offer. This eventually led to over 300 different websites with which the firm was operating. In 2018, they decided to integrate all different websites into one domain: *E-commerce*.nl. This decision was made in order to be able to architect the business model in such a way that they were able to create network externalities between product groups, allowing them to engage in up- and cross-selling. This was an important decision for the focal firm's governance element because they were now better able to control the linkages between the value creating activities and hence make sure that they reinforced each other. What is more, the decision allowed for faster technology diffusion and the automation of processes, such as online marketing.

> *"Instead of having 325 separate webshops, we now offer unlimited storefronts. This means our customers can reach the right product page faster. Before, there was only a specific page for laptop bags, but now there is also a page for 13-inch brown leather laptop bags. One unified webshop also allows customers to reach the right page with a single click when they find us via Google. In addition, a single webshop means we can deploy smarter, fully-automated online campaigns." (E-commerce Yearbook 2018)*

Integrated IT and Data. As described above, an important part of the one company approach is the one platform approach. The governance element of the scalable business models of the HGFs in our sample is further characterized by the integrated IT and data systems. This refers to the centralization of technology systems, such as the website and the database. By centralizing these aspects, the firms create uniformity throughout the organization in their data which is important for the fast combination of information that comes from different departments. Moreover, integrated IT and data refers to the fact that all firms in our study governed these activities in-house. The HGFs all have a department that is responsible for the most important IT and data activities such as the platform, the database, and data analytics. This creates a greater control over these important value-creating and capturing activities, which are key for the scalability of their business model.

A valuable illustration of the integrated technology is the unified data approach of *E-commerce.* The firm has one centrally managed data department. To make sure that all activities could be measured the same way, the firm decided to create one data system that allowed them to collect and combine the data across the entire organization. This means that the data that is collected in and distributed to each department is collected in a centralized system in which all data input 'speaks the same language'. This is an important governance mechanism because having such a unified data system allows for the fast comparison of departments and based on real-time data decisions can be made that help them to adapt and increase the value for the stakeholders in their business model.

> *"But the thing is that I want it to be measured in the same- So, there's one data system behind it as well. So, the systems that the people, that the EBITDA, NPS, so it's one universe of data points language which roles up to the highest level. Which is the yearbook. And the lowest level, which is the result of yesterday. And there's no separate systems, stuff like that" (CEO, E-commerce, Interview)*

What is more, key strategic activities within these departments are developed in-house. *Food* for instance developed their own platform and management systems, *E-commerce* developed their platform and data analytic tools, and *Recruiter* developed their own candidate-matching software and CRM system. This is a crucial insight from our analysis because the in-house development of key strategic activities increases the control on the quality of these systems. Moreover, it allows them to faster detect and address improvements. Finally, the in-house development of IT systems increases scalability because, in contrast to outsourced systems, an increased number of users only marginally increases the cost of these systems.

Centralized board control. In order to successfully manage the 'one company approach' and the associated integrated IT and data governance elements, the centralized board control is an important characteristic of the business model governance element that we derived from our analysis. The top management teams of our case firms all had at least one founder still on board. In order to make sure that the business model was aligned with the firm's strategy, the board had a strong control over the activities that were performed within the system. While this seems counterintuitive to sources of scalability, the strong board control created several important advantages for scalability. First, having a founder and major shareholder as key decision maker allows for fast decision making. As there were not much stakeholders to consider, the board could act quickly which is of crucial importance in the scale-up context (Demir et al., 2017). Also, by having a strong control over the key strategic activities, the board was able to oversee the bigger picture of individual departments and therefore guard the network effects of the business model which are highlighted as a crucial source of scalability. As *Food's* Director of Human Resources notes: "We have always had a centrally managed organization model and that is super successful, because that ensures scalability, transparency, you have one leader who oversees an entire spectrum" (Director of Human Resources, *Food*, Interview).

The delivery initiatives of *Food* and *E-commerce* and the academy initiative of *Recruiter*, which independently did not result in scalability advantages nor increased profit illustrate this importance. In the case of *Food*, for instance, some minority shareholders were against the initiative because they considered it to be loss-letting. However, because the board realized the overarching reinforcing effects of these activities and had dominant ownership and hence control, the firm was able to implement it and increased the growth of their business model. This was important as without the initiative the BM would reach a saturation of its growth prospects and the long-term scalability would be compromised.

While different from the other firms in our sample *Recruiter* decided to hire a CEO, the founders remained part of the executive board. The three founders realized that managing was not their strength and hired a CEO to take over that responsibility. This allowed them to free-up their time and mental capacity to be focused on new initiatives and the operations. However, they kept being closely involved in the organization, even at operational levels, in order to control the value creation processes in the organization.

> *"One example, we still open offices. And when there is an office opened, I always go there. And the first thing I look at is the signing in the building. If candidates who come there, applicants, they understand the way. Because most of the time we are in big offices and there are a lot of companies and then I'm looking at the signs, as a candidate. And 90% at the time, it is shit. I can't find my own office. So, I come in the office, I talk to the manager, I say this is shit, I can't find our office. So, everyone who is visiting here as an applicant, they're nervous, they're here for a job, we have to do something about it. And that's what we do the whole day. So my two partners also" (Founder, Recruiter, Interview).*

Integration of strategic activities. The integration of IT and data, which are important for the scalability of the business model has been already discussed. Another important insight from our analysis is that HGFs that were able to scale-up their business models integrated other strategic activities into their business model. These decisions were made, even though the positive effects could not be measured directly. However, the activities that were strategic, in the sense that they were important contributors to their strategic goals, were integrated regardless of the financial consequences. This resulted in increased scalability because the firms had more control over the quality of activities. Also, conducting them in-house let to better insights into the operations and simplified the creation of interdependent linkages with other activities within the system. This helped them to stimulate the virtuous cycles of value creation.

E-commerce initially relied on third parties for their delivery service. Because *E-commerce* considers itself a customer journey agency, they strongly emphasize customer satisfaction by calculating the NPS score of customer journeys. While doing this, they realized that for certain product groups, the NPS score was low because of the way their products were delivered. Because this was considered a strategic activity for their firm, they decided to start delivery themselves. By experimenting they began to craft the delivery process and eventually made the decision to integrate this entire step in the customer journey rather than outsourcing it to third parties. An important additional insight is that this change was only made in product groups that suffered from decreased NPS because of delivery. For other groups, where this was not the case, they did not integrate this. This is important as it illustrates the vertical integration of key strategic activities in the business model and thus the integrated control of key value creating activities.

Self-supporting Business Model. Another finding related to the integrated control is the fact that the HGFs created self-supporting business models from the very beginning. This means that their business models were able to finance their own growth by being profitable. Because this was the case, no external funding had to be attracted in the early years, allowing them to keep a strong integrated control without short term pressure of investors. By only attracting external capital after achieving considerable growth rates, the founders were able to keep an important share themselves. Our findings indicate that this was an important characteristic of their governance element because it allowed them to make scalable investment decisions without being held responsible for short term losses.

Even though profitable growth is at the very core of scalability (Nielsen & Lund, 2018), the insight that the HGFs in our sample built a profitable business model from the very beginning remains important. Namely, having a profitable business model allowed them to remain control over their business model which facilitated the refinement of their business model designs for scalability in later stages of their growth trajectory.

5.4.3.1 Theoretical summary

The governance element of the scalable business models of the HGFs in our sample is characterized by the *Integrated Control*. All firms operate using a one company approach with a strong single brand strategy. Their integrated IT and data systems allow the board to be the final decision maker because they possess the necessary information to do so. Moreover, the integration of strategic activities results in more control which is important to be able to guard the network effects of the business model, a key source of scalability. Being self-supportive further facilitates the integrated control of the business model (see Table 5.6 for an overview).

On a general level, the in-house governance of key strategic activities is important as it enhances the control firms have on the quality of their value creating activities (Contractor, Kumar, Kundu, & Pedersen, 2010; Williamson, 1979). An important theoretical insight is that integrated control is important to guard and stimulate the growth logic of the business model.

Namely, by having in-house rather than outsourced data gathering and analysis capabilities, the firm ensures faster information flows, faster changes and thus faster improvements that allow the firms to increase the created value (Ghosh & Rosenkopf, 2015; Westerman, Tannou, Bonnet, Ferraris, & McAfee, 2012). Moreover, the integrated control allows the firm to make decisions overseeing the bigger picture. This is important because by doing this, the network externalities can be stimulated what leads to an enhancement of value creation throughout various parts of the business model. Prior research on both business model scalability (Zhang et al., 2015) and high-growth firms (DeSantola & Gulati, 2017; Hambrick & Crozier, 1985) has suggested that firms should decentralize control for scalability and sustained high growth. Our findings suggest differently. Our analysis indicates that centralized control is important for scalability for several reasons. First, it allows the focal firm to control and ensure the quality standards of their value creating activities. Second, the integrated control increases the speed of information flows, allowing the firm to detect improvements faster and hence quickly adjust the value creation activities to maintain quality standards. Third, it allows top management to structure the business model in such a way that the network effects are stimulated by looking beyond the scalability of individual activities. Our findings indicate that this is a critical characteristic of scalable business model designs. Rather than concentrating on isolated individual business model design choices, we provide a systematic and holistic approach and combine the key elements of the BM in our analysis of scalable business models (Zott & Amit, 2010).

Table 5.6 Business Model Governance Element Design for Scalability

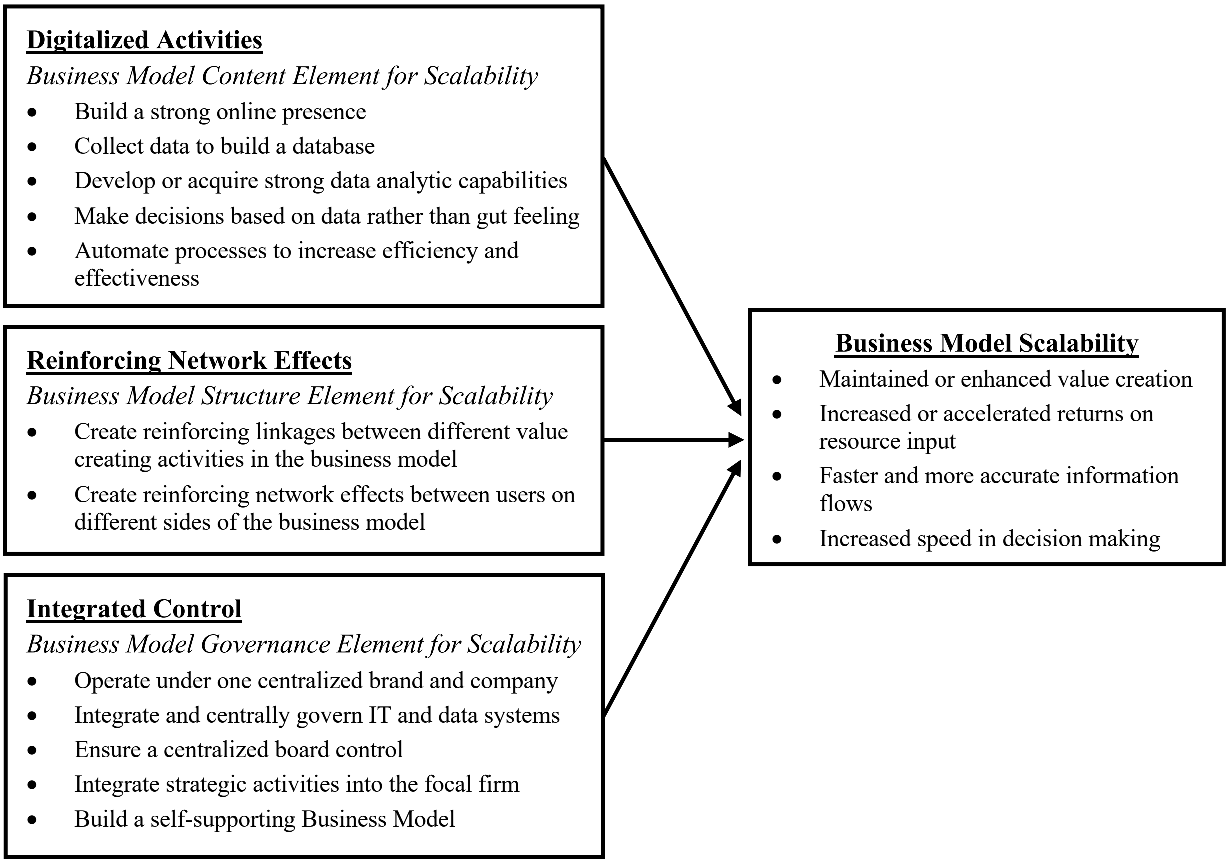
	Governance Element Design	Impact on BM Scalability
Food *Governance* *Integrated Control*	Centrally integrated governance of activities managed by the board of *Food.* One centralized brand and platform across countries that is developed and managed internally. Related data system is managed by the centralized board and distributed across the organization. Delivery service, an activity that strengthens the network effects, is conducted in-house, is part of the centralized platform, and is centrally managed by the board. Business model was profitable from the beginning and therefore the Founder-CEO was able to limit the short-term pressure of investors in the early years.	The integrated control results in increased speed in the business model. Moreover, it allows the organization to oversee the bigger picture that helps to stimulate the network effects. By having a strong control, the desired value creation can be ensured. The factors combined leads to a reinforcement of the upward growth spiral.
E-commerce *Governance* *Integrated Control*	Centrally integrated governance with a high degree of control of Founder-CEO. One integrated platform in which over 300 websites are integrated, operating under one brand. One unified data language throughout entire organization that is guarded in a centralized system that is managed internally. The CEO is the final decision maker. Delivery service vertically integrated to increase control on customer journey which enabled the further strengthening of reinforcing linkages between product groups. Building on profitable business model resulted in strong control and limiting shareholder pressure in the first 10+ years of operations.	The integrated control allows the firm to control the customer journey and constantly improve it by making fast decisions. This leads to increased value creation.
Recruiter *Governance* *Integrated Control*	Centrally integrated governance with strong operational involvement of founders. Integration of various websites under one centralized brand. In-house development of software systems that increases control and can be better adapted to the needs of the organization. Centrally managed database which is a key strategic asset of the organization. New initiatives developed internally, even though they seem far away from core value creation, to ensure control and speed of operations and strengthen the core proposition. Founders are still closely involved in operational levels of the organization. Long-term orientation can be ensured because of self-supporting business model and limited pressure of shareholders.	The integrated control helps the firm to keep investing in stimulating the growth logic. Of key importance is the integrated database, which is key for their competitive advantage, the 'quality' of information. Integrating these activities ensures the desired value creation over-time as they are able to quickly adapt it to the need of the organization.

5.5 DISCUSSION

So far, we have described how *E-commerce, Food* and *Recruiter* have configured the content, structure and governance elements of their business models to increase scalability, allowing them to create and capture value over prolonged periods of high growth (see Figure 5.1).

Our analysis has shown that HGFs design their business models for scalability by taking a holistic perspective of the activity system that is the business model. Our findings show that *Digital Activities* in the content element enhances the business model scalability because it allows firms to accumulatively collect information in times of growth and based on that make more accurate decisions that help them to make the operations more efficient, stimulate key value creating activities and doing this in a faster manner. What is more, the digital nature of activities enables the HGFs to architect their business models so that they are able to create direct and indirect network externalities between product/service groups and users. These *Reinforcing Network Effects* in the business models are a key source of scalability because it creates virtuous cycles of value creation. This means that resources invested in value creation for stakeholders or product/service groups on one side of the BM also increase value for the stakeholders or product/service groups on the other side of the BM, and vice versa. This allows them to increase, and even accelerate, the desired value creation relative to resource investment. The digital nature of the content element is important because it allows the firms to measure the overarching effects of decisions. Hence, it allows them to measure the effectiveness of network effects and steer the organization towards stimulating those. To do this more effectively, the HGFs' business model governance element is characterized by the *Integrated Control*. By operating with a one company approach, integrating strategic activities, and integrating data and IT systems, the focal firm has a strong control over the entire activity system of value creation and capture. It also increases the speed of decisions because real-time data informs the board faster and the centralized control enables them to make fast decisions without considering a broad number of stakeholders. As the network effects constitute a main driver of growth, the centralized control enables HGFs' top managements to move beyond the scalability of individual activities and look at the holistic logic of combining content, structure, and governance in order to ensure the long-term scalability of the entire activity system.

Figure 5.1 Scalable Business Model Design



5.5.1 Implications for Business Model literature

Our emergent theoretical framework in which we identify how HGFs design their core business model elements to enable scalability over time makes several contributions to the business model literature. First, by combining different literature streams, we update the definition of business model scalability. This helps us, and future research, to better capture what scalable business models are.

Second, we contribute to the business model design literature. We move beyond the business model design themes that 'labeled' the value creation and capture logic of the activity system as a whole (Zott & Amit, 2010). In our study we zoom in to the key business model elements that enable business model scalability and hereby explain *how* firms can design scalable business models. Hence, we move beyond the more generic design themes which stopped at explaining *what* the business model design themes are (Amit & Zott, 2001). While these studies have made important contributions to our understanding of the performance effects of such design themes, they provide a rather static perspective (Balboni et al., 2019; Zott & Amit, 2007) and do not explain how business models are prepared for the high growth they might experience after a successful business model innovation (Foss & Saebi, 2017). By analyzing the business model configurations of HGFs that have experienced sustained high growth, our study makes an important contribution by providing a more dynamic perspective on business model designs.

Third, we contribute to the literature on business model scalability by providing much needed in-depth insights into how firms design scalable business models. Prior studies have argued business model scalability to be important for successful business model innovation (e.g. Amit & Zott, 2001; Casadesus-Masanell & Ricart, 2011). However, only a limited number of studies have tried to define what business model scalability is and what its sources are (Stampfl et al., 2013; Zhang et al., 2015). Moreover, studies that provide in-depth insights into *how* business models are designed for scalability are lacking, and authors call for further research into this phenomenon (Täuscher & Abdelkafi, 2018). Our study provides a deeper understanding of such business model configurations by explicating how the business model elements of successful HGFs are designed in conjunction to enable scalability.

Finally, Arthur (1988) in his work identified different sources of scalability. Our grounded empirical analysis shows that one of these classical concepts, network effects (Katz & Shapiro, 1985), is particularly important for business model scalability. Our study moves beyond the earlier established relation between network effects and scalability by empirically identifying not only that network effects are present in scalable business models, but also illustrating how these network effects are designed and implemented into the structure element of scalable business models. Moreover, our analysis shows how HGFs design the other business model elements, content and governance, in conjunction to stimulate these network effects.

5.5.2 Implications for scale-up literature

New innovative business models are considered important prerequisites for high growth (Foss & Saebi, 2017; Teece, 2018b). Moreover, scholars have acknowledged the importance of scalability in business model innovation for long term success (Casadesus-Masanell & Ricart, 2011). It are the business models that are able to sustain this growth over time, that are able to capture an important market share in the industries they enter, and hence bring disruptive change into established industries (Casadesus-Masanell & Ricart, 2011; Markides, 2008). Yet, existing literature tells us little about how high-growth firms design such scalable business models that enable them to sustain high growth over time (Jansen et al., 2020). Our study makes at least two important contributions to this literature. First, by providing insight into the business model configurations of the most successful HGFs in the Netherlands, our study makes an important step in the understanding of this phenomenon. We extend prior studies in the high-growth literature (DeSantola & Gulati, 2017) by not only explaining that scalability is important, but also providing insights into how this is accomplished.

Second, prior research has often times focused on digital businesses in explaining high growth and scalability (Hagiu & Rothman, 2016; Parker & Van Alstyne, 2005, 2018; Täuscher & Abdelkafi, 2018). While our study supports the notion that digitalization is an important characteristic of scalable business models, we extend this insight. First of all because the HGFs in our sample are firms of which their business models are not mere digital. Namely, an important part of their value creating activities requires manual labor such as the matching process of *Recruiter*, and the delivery services of *Food* and *E-commerce*. Second, an important insight in our analysis is that all HGFs develop initiatives that are not digital and independently are not scalable as they require increased manual labor (thus resources) with growth. However, by applying a holistic perspective on the business model activity system, our analysis shows that these activities allow the HGFs to stimulate the network effects of their business model and hence increase the created value. In contrast to prior studies that analyzed the scalability of digital business models (Vendrell-Herrero, Parry, Bustinza, & Gomes, 2018; Zhang et al., 2015) our study contributes to the study on high-growth firms in general.

These insights allow for a greater application of our findings to traditional business models as well. Our findings show that different business model archetypes enhanced their scalability by incorporating similar content, structure and governance elements. Moreover, we find that business model scalability applies to a broader set of firms than born-digitals only. Our findings, which are summarized in figure 5.1, provide clear pathways in which firms with traditional business models can incorporate scalability in the core elements of their business models. This might help more traditional firms to reconfigure their business models in order to thrive in the digital era in which digital business models put a lot of pressure on the survival of traditional BMs (Cozzolino et al., 2018; Teece & Linden, 2017).

Third, our study provides a much needed more dynamic view on high growth. Research on high growth has a rather static view as it dominantly relies on secondary data and quantitative research approaches (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009). While those studies recognize scalable business models as an important 'ingredient' for achieving high growth and notably, sustaining such rapid growth, prior literature has mostly taken scalability for granted (Baron & Hannan, 2002). The idea that 'HGFs are rapidly scaling, so their BMs must be scalable' is not entirely wrong; however, studies lack that provide a more dynamic perspective that addresses what scalability actually means in such context (DeSantola & Gulati, 2017). Therefore, there is a clear need for studies that explain *how* HGFs manage to create and capture value over prolonged periods of high growth (Achtenhagen et al., 2013). By empirically showing how HGFs manage to achieve sustained high growth by designing and refining scalable business models and illuminating how the key elements tie together into scalable BM architectures, our study expands our understanding of *how* HGFs' business models are prepared for significant growth over time.

5.5.3 Limitations and future research lines

We believe that our study provides important insights into our understanding of the business model scalability of high-growth firms that enables them to create and capture value over prolonged periods of high growth. However, it also comes with limitations, which represent interesting paths for further research. First, we studied the business model characteristics of three of the most successful scale-ups in the Netherlands. Looking at the most successful HGFs allowed us to apply the replication logic to assess whether our research findings could be confirmed across cases, hereby creating more robust insights (Yin, 1984). However, our study only includes three cases. Future research would benefit from studies with a broader number cases in which the replication and extension of our theoretical insights could be assessed (Smith & Besharov, 2019). Moreover, the 'Eisenhardt method' encourages the use of 'similar, yet distinct' cases (Eisenhardt, 1989; Gehman et al., 2018). A limitation in our study is that we only studied highly successful cases and did not compare them with less successful ones. Comparing the scalable business model characteristics of successful HGFs and firms that were not able to sustain their rapid growth is an important avenue for further research that might give us additional insights into this phenomenon. Furthermore, future research could benefit from comparing the scalable business models of entirely digital businesses and businesses with a more physical component, such as for instance consultancy firms. What the differences between scalable business models of these types of firms are would be an interesting question for future research and we urge researchers to explore the applicability of our propositions to other settings.

A rich avenue for future research is also to quantitatively measure the impact of business model scalability on value capture over time. While the sustained growth of our case firms indicates that the HGFs of our study were able to create and capture the desired value over prolonged periods of growth, it would be interesting to measure the performance effects of scalable business model designs in a broader number of firms (Markman & Gartner, 2002). Furthermore, research on both internal and external antecedents of scalable business model designs constitutes an interesting avenue for future research in both the business model and high-growth literature.

No theory in management could be expected to explain all the variance observed (Vuori & Huy, 2016) and we do not claim business model scalability to be the only factor explaining the sustained growth of HGFs. In order for a firm to achieve and sustain high growth, other factors such as leadership, growth aspirations and organizational capabilities are important as well. Nevertheless, business model scalability seems to be a necessary (but not sufficient) condition for sustaining high growth in scale-ups. Overall, our study is among the first to empirically identify the characteristics of such scalable business models and provides important insights into the sustained value creation and capture over time of HGFs. We hope it inspires future research to continue exploring how firms are able to achieve and sustain rapid growth over time.

5.6 APPENDIX

Table 5.7 Data Supporting Scalable Business Model Design

	Food	E-commerce	Recruiter
		Content: Digitalized Activities	
Online presence	"if you don't have anything top of mind, you go to Google and you search for it. So they were only able to bid on Google for one brand, on certain keywords. … So that had a huge impact on us, because by now, everyone says that Lieferando is by far the biggest. … so that was very important." (COO, Interview) "Where we really add value to the restaurants, it's at the moment in the marketplace model, it's mainly on the marketing side and on the IT side … They have hardly any clue about marketing. I mean, the marketing that they used to do is printing flyers and getting them distributed, but in the online world, they don't know how to do Google AdWords or these types of things. So, these two are the main areas where we focus, because we think we have the competency there" (COO, Interview)	"Throughout 2018, we have increased our all-round visibility, mainly by expanding our delivery services with blue vans and by improving our online presence. As a result of our increased visibility, customers often think of us first. We are the first place they come looking when they want to buy a product" (Yearbook 2018) "Going a bit back to, I think to understand the background is, … when the game changed, our approach did not really change. So, once online became more dominant and, we became a dominant online player, we still were playing the same game" (Head of Assortment and Pricing, Interview).	"So, we had a lot of websites, … we had a lot of jobboards, we had bijbaan.nl, bijbanen.nl, scholierenwerk.nl, trainee.nl, studentenwerk.nl. And we had a lot of traffic online and then we got like applicants in a split second" (Founder 3, Interview) "Yes and our platform is already very high, because at the moment when you look at us - why are we doing better than the competition at the moment? That has three reasons. We are super strong online. So our online visibility is 60%" (CEO, Interview)
Database	"And then we just look at the public data sources that are available. We pick it up and we actually use it, we use Tableau as a visualization tool and I just put it in Tableau so that they are available. And if we find something interesting in that, it will be reported." (Director of Data and Analytics, Interview) "We must also do certain ideas based on insight into data. That's actually where it starts. That is also something I always find interesting, it is often referred back to let's ask the customer, let the users do it. Then let's take a good look at what they actually do before they ask why we do it" (Director of Product, Interview).	"Yes, so how we use that customer data, is by relying a lot on Google Analytics. So how do people use our website? Conversion rates, click rates, the use of filters, specifications, things like that. We rely quite a lot on Google trend data. So, what are brands, products, models, that people search for? A lot of it is market data, so how is the market as a whole behaving? (Head of Assortment and Pricing, Interview). "So, the data was just always present for us. And everything that we did, always need to incorporate the data to well, in a feed or in a database or in whatever we could talk to. So, I think that that really fired up the progress that we can make on our data-driven marketing strategy" (Head of Online Marketing, Interview)	"So that made an advantage but also all the subscriptions in the database because when we put on a vacancy, like for instance do you want to do sampling for Red Bull, we get huge amount of applicants and then we could choose" (Founder 1, Interview) "It's the database, because we have this online network which is the, which works the best in the Netherlands. We have six million profiles in our database. And if you check our online visibility, it's like 84 per cent. And it's growing. So we are online way ahead from our competitors" (Operational Director, Interview)

Data Analytics	"So everyone has access to that information. We provide monthly training. Where everyone with the access she has to these big data, that they themselves can find explanations therein" (Director of Data and Analytics, Interview). "Yes, that is, we also really looked for Bulgaria for then, where are they now, what are their comparable moments in time. Like we have just taken Poland as an example, put it next to it. The model applied to the Bulgarian and Romanian data and looked, yes you know, where do we end up. That was part of the due diligence to see what the potential of this business is" (Chief Marketing Officer, Interview).	"The data setting that you need for this display is like literally insane. I think from a data perspective we're a very, very, very mature company." (CEO, Interview). "So, you need to give a lot of data to the category teams that they can actually go figure out, hey, but if that phone comes back in six percent of the cases, why does it actually come back? Do we need to improve the picture which we have, or do we need to explain a bit more clearly for what target audience this is?" (Head of Returns, Interview).	"From the start, we counted the conversion and we had data and metrics to see if we were good in it and if we made progression and what worked best. And we tried calling, advertising, cold canvassing, we tried newspapers or newsletters or just letter. And then we said, did you got my letter. And we found a way, it was working for us and we had the highest conversion" (Founder 2, Interview) "We are investing even more in data analysts and data scientists, because that is just- That's what we need. Then you can feed your operations even better" (CEO, Interview).
Data driven decision-making	"The fourth pillar is that you fully rely on what the data says. You need a whole process there, you have to make sure that everyone understands what the definitions are and wants to rely on them" (Director of Data and Analytics, Interview) "So, [the CEO] and [the CFO] looked at that consumer data and said wow, within two months such a customer will be earned back, we just have to invest a lot more in that" (Manager of Investor Relations, Interview)	"We're just always data driven, making data-driven decisions based on finding the optimum investment level for our marketing activities" (Head of Online Marketing, Interview) "To predict or to determine new store locations, we look at all kinds of data like what is the- You know what the uplift of a store in an area can be. And the uplift is, it depends on the amount that is already, the sales that we already have in that area. So then we can decide what are good locations to open a new store." (Head of Physical Stores, Interview)	"First we looked at, is there a university, is there a high school, are there companies? That's what we looked at, very simple. And now we look like the numbers, like the revenue divided over the country and where it's smart to open or to not open- But it's- It's all data-driven" (Operational Director, Interview). "We absolutely are a data-driven organization" (Chief Technology Officer, Interview)
Automation of processes	"We have an algorithm for that to look at the chance that it is a fake review. And then we identify that and we attach an action to it. That is, for example, typically something that we then signal and then bring into the organization, which then again looks at, yes, what we are going to do with this type of review. And those are then automatically deleted and things like that" (Director of Data and Analytics, Interview) "So they can if they release something in their own cell with the automated test tools, that the rest does not break and that you can of course keep completely contained, they do three releases per second, so they can bring new things live quickly. … There are companies that only do one every	"And now we started well, automating a lot of stuff. So the manual labour of all the Google ads is not necessary anymore, because it's now being done by our bid manager" (Head of Online Marketing, Interview) "We have like automated stuff for stock, automated things for pricing, automated things for marketing" (Head of Assortment and Pricing, Interview)	"Or maybe the same thing I'm playing with right now is that you can actually if you have the phone number of the recruiter, we can make a system that whatever number you call, we see o, this is this candidate and we reroute the call automatically to the mobile number of the recruiter" (Chief Information Officer, Interview) "But, for example, that on the administration, my colleague finds out that someone is there, who has been doing this kind of job by hand for a year, while you can easily automate that without programming. And, well, he just put that tool live and we got rid of the extra work" (Founder 2, Interview)

	quarter, you know?" (Chief Technology Officer, Interview)		
	Structure: Reinforcing Network Effects		
Reinforce-ment of value creating activities	"So if we get someone who ordered for example and we deliver, then next time he might order with a regular marketplace model restaurant and then we get the poorer margin. So in the end, for us it's a mixed calculation. And it strengthens our network effect, because people are thinking about ordering food with [Food] even more" (COO, Interview) "So everyone has to be a customer of ours and if that means that we also do this for a number of companies that do not deliver themselves, then we have to do that, because one in 50 orders, or maybe it is one in 20 at a given moment , is a delivery order. That costs us, I know a lot, say: a tenner. If we can spread that on all orders, then our customer is still profitable, because I just look at the profitability of the customer, I don't look at the profitability of a delivery model" (CFO, Interview)	"So, there speed is of the essence. So, if you can come up with a proposition where speed is really, really works. And that can either be with a loaner device or at least with a very, very quick turnaround on repair. Then that also becomes a competitive advantage on the sales side. So, that's a bit of the thinking there" (Head of Returns, Interview) "But there's different themes, so the delivery guys for washing machines, they're actually organizing value for the Apple team. Advice for ourselves. So, there's attribution modeling, we need that as well" (CEO, Interview)	"We can see there's going to be shortages, it's going to be huge in that period of time. So that's- We're thinking okay, how can we meet up to these shortages and help these companies? Well, let's start at universities, because if you're seventeen or eighteen, you can develop what you want after your degree. So if we can combine these things, studying and getting your degree helping companies out, we know we're sitting on a pile of gold" (Founder 1, Interview) "Well, if you put that together with the customer side, you can turn that into a very nice concept. We just did that. We have ensured that we have a higher professional education, now IT, but in addition to this this year we also have technology and care, training in which we ensure that customers can touch young people early in the chain with the right knowledge. And for the candidate we have arranged it so that they can start working very early" (Chief Commercial Officer, Interview)
Two-sided user reinforcing network effects	"Was actually in our strategy from the start: it's all about your offering, so about the number of restaurants … You just need to have them all. You should not differentiate at all and why not? Every restaurant has its own type of customer ecosystem, because that restaurant only exists with the number of customers. So even though you may well have been covered in the offering on all Berlin postcodes, you have to order that one thing ... Because there ... It has unique customers, which you also need to have on your platform" (CFO, Interview) "There is of course much talk about portals and things like that. For the portal, the consumer side is really important. And of course, to serve that consumer side well, you also need restaurants" (CEO, Interview)	"This funny thing, so on a market share level it works like this. It's a shitload of work to get the ten percent. If I have the ten percent, I'll demand to get [better conditions] to sit down and I demand some marketing funding and I demand and then, boom. We're at twenty percent. This is a very short timeline " (CEO, Interview) "The gross profit margin increased to 12.7% (2017: 11.8%) by improving purchase conditions and the rationalization of our product assortment. We focused on offering an improved range of products and services which suit our customers best, for instance by only selling products with low return ratios, and by setting up reasonable return agreements with our suppliers" (Yearbook 2018)	"So when we started we said, okay, if you don't react on applicants you get a fine. And the company said, why? Because you have to answer their questions, because if you don't, our website doesn't work" (Founder 1, Interview) "So that made an advantage but also all the subscriptions in the database because when we put on a vacancy, like for instance do you want to do sampling for Red Bull, we get huge amount of applicants and then we could choose" (Founder 1, Interview)

	Governance: Integrated Control		
One company approach	"If you look at the company and our strategy as it is today, we're very focused on one company, one brand and one technology platform strategy. Which means that makes us very efficient, because we can apply best practices from one country to the other" (COO, Interview) "Well, we have become much more scalable, I think, in terms of marketing, for example by centralizing the departments" (CFO, Interview)	"We switched to a single domain in June 2018: [E-commerce].nl and .be. Our customers no longer have to remember the names of product-specific webshops, such as Laptopshop.nl and Wasmachinestore.be; they can simply visit one central website instead" (Yearbook 2018) "We just fixed it, but every store had their own onboarding programme for new employees. ,,, So what we did, we simply just made a central onboarding programme that is used in all stores" (Head of Physical Stores, Interview)	"You have to centralize things more to make it really effective and that's a process with is really a big step. So we take now the small steps to make the system work that way and then we have to centralize certain activities to make it really effective." (Head of Marketing and Communications, Interview) "And in Germany we changed things and said okay, if you want to start here, we have to find somebody in the company with our DNA, not a German, with our DNA who's going to hire Germans and introduce them with our culture, with our DNA" (Founder 1, Interview)
Integrated IT and Data	"That central platform is just very important to achieve that growth. And that ensures that with every takeover, there is another such migration as we call it. But that is again an investment to ensure that when we develop something new that will be the same in Romania and Bulgaria again - I think that's the most important thing when you talk about rapid growth in this company on the tech level" (Head of Product Development, Interview) "And one platform and that actually resulted from: yes, if we do everything the same ... And the platform, that's just 60% of us ... Almost everything revolves around the platform" (CFO, Interview)	"So we said, why would we, why wouldn't we create something like a huge centralised point that collects all customer feedback. And we can see a customer contact could be feedback as well. And if you well, visualise that in a smart way, for different kinds of users. Then a lot more people know what customers are contacting us about and a lot more people can improve the customer journey" (Head of Customer Service, Interview) "But looking now, if we have a bid manager for adverts, the data is the same as the data that we got for Facebook, the data is the same for Display. So basically, all the data is the same." (Head of Sales and Marketing, Interview)	"Our asset is the infrastructure we build on systems. So we have really software, our own software, where all the people will work on. And it's matching technology. So we have built an application tracking system. You place an ad as a recruiter on the whole network. It's our network, so it doesn't cost you money." (Founder 3, Interview) "Our own system. Yes. In fact, almost all components that are in the primary process - so that actually begins with the filing of an application, the placement of vacancies, your job boards on which those vacancies are presented, the registration processes for candidates, application flows that run through them, handling applications. Well and then the piece even further. That if an applicant is treated and goes to work with us, he or she will also register with the rest of his data, his bank details, his ID proof and the like. Then if he then receives the placement contract, submits his ID, or claims, and the like. That is, all are separate systems that we have written ourselves" (CIO, Interview)
Centralized board control	"Actually, you need people who lead the company, and then I talk about [the CEO], then I talk about [the COO] and to a lesser extent myself because I am not an	"I think we saw the last year that the new concepts in Amsterdam and The Hague, they really work and now Pieter, the CEO, wants us to	"And of course I can give my opinion, but in the end the one responsible for it has to discuss it with the CEO and or the three owners and there they have to

	entrepreneur. Those two really have an idea. They drive it and then you need people who are going to steer that in the right direction. You need those managers for that." (CFO, Interview) "Our board - And I understand that, our board doesn't care much about that. They say, just do it. If you don't do it - You will just do it, you know" (Director of Human Resources, Interview)	open a lot more stores. I think that's for me a big challenge in the coming months, just to make sure that we have the right team to also open five stores next year already, because that's what he wants" (Head of Physical Stores, Interview) "It's not to be honest, really a group discussion. It's more, there's, we have one boss, who is the clear end responsibility. And everybody knows what to do." (Chief Strategy Officer, Interview)	find a solution" (Head of Marketing and Communications, Interview) "Most of the decisions are actually made by the founders and with me, so the four of us, when it is really a strategic decision. And we have an MT that is executing it, right? … That is not a decision-making MT, because that is too slow" (CEO, Interview)
Integration of strategic activities	"And we actually integrated logistics model into our own network, so you can't really differentiate whether a restaurant is being delivered by us or someone else." (COO, Interview) "The logistics model sounds also controversial, because on the one hand you could say, it's loss making so why are you doing it? But on the other hand, we believe it's contributing a lot to the networking effect or even to reorder it." (COO, Interview)	"So, there you can think about outsourcing it. And we've been having those discussions but, in the end,, the innovation we want to do on that process is currently still so big that outsourcing it is going to hinder that. Because if you start working with an outsource party, you become way less flexible in the process changes" (Head of Returns, Interview) "With gaining complexity you can for instance, we always had a department of shipments and delivery. But well, and then you start deciding that you are going to build your own delivery service for, so we had like eight vans to replenish the stores. Which is called delivery. And then you start building and then before you know it, it's like the biggest employee home" (CEO, Interview)	"Buy temping agencies and then if there's a culture fit, we put in our software, our machine and then it's really like- Then we can really scale up" (Founder 3, Interview) "We do not believe in outsourcing because we believe in organic growth and that is very much from our own DNA and our own strength. We have however started a partnership with an accredited HBO IT course. I do. And yes, we did it quite honestly because we see that mums and dads really like it if there is an accredited story behind it." (Chief Commercial Officer, Interview)
Self-supporting business model	"Well, I think the most important thing, or the most important thing, as long as I am here, is for the company, I think, that in the end we… The Netherlands has become profitable, has always remained, has been, from the beginning, because of course… It was not funded in the beginning, so with that there was actually created a profit center" (CEO, Interview) "With the money that he started earning at some point, he reinvested abroad and he was able to do so until 2012 with no funding, because we were profitable. So we could use the excess cash that was there" (CFO, Interview)	"So, the funny thing that happened, is that we went to a billion euros without taking any money whatsoever. So, we literally started with five hundred guilders, which is two hundred euros, the three of us. And that's the only money that ever went in there" (CEO, Interview) "And the funny thing is, is we only, we never attracted financing. So, the, because the business model that we used financed its own growth" (CEO, Interview)	"So, I actually started with a team of one and it just grew, grew, grew and I think, well, one of the key things here is that most of the time we build something. We make a little bit money with the thing we built and then we reinvest it, which is totally different than companies that just, you know, there's financial backing to grow, we make total different choices" (CIO, Interview) "We were just investing all the money we earned … Yes, the first six, seven years we, all the money we gained went back to the company." (Founder 1, Interview)

Chapter 6:

General conclusions and contributions

6.1 GENERAL CONCLUSION

How do organizations deal with both internal and external changes when growing fast? And how do incumbent firms protect their competitive positions when they are challenged by their fast-growing competitors? Managers and academics are seeking to answer these questions for years (Wernerfelt, 1984). The dynamic capabilities framework has provided valuable insights into how firms are able to deal with, and prosper in, times of change (Schilke et al., 2018; Teece et al., 1997). In a similar vein, the concept of business models has expanded our understanding of how firms react to, and bring about, innovation (Foss & Saebi, 2017; Massa et al., 2017). Moreover, research on high-growth firms has increased significantly in the last years and started to provide answers to the questions of 'what' drives high growth and 'how many' firms are able to grow fast (Demir et al., 2017). While these concepts provide valuable insights, the literature indicates that there is still no complete answer to these questions. Specifically, there is still much left to learn about *how* firms and top managers deal with the critical questions of high growth and innovation in the pursuit of successful adaptation. Hence, in this dissertation, our aim is to contribute to the management literature by extending our understanding of these important questions.

In the attempt to advance our understanding of these questions, we carried out three empirical studies. The first study zoomed in to how the top management team of an incumbent firm brought together the dynamic managerial capabilities of its individual top managers in order to successfully innovate the firm's business model. The second study focused on how a successful scale-up company was able to sustain its high growth rates over prolonged periods of time by continuously adapting to the changing circumstances. The third study attempted to unravel the key characteristics of scalable business models that allowed the firms to create and capture value over prolonged periods of high growth. In order to provide an overview of the main findings, we summarize the main conclusions from each of the empirical studies in this chapter.

6.1.1 Conclusions Study 1

In the first study we asked: How do top management's dynamic managerial capabilities combine in the process of business model innovation? We conducted an in-depth case study of the business model innovation process of the biggest independent fashion retailer in the Netherlands. Building on the dynamic managerial capability literature, we aimed to open the black box of how dynamic managerial capabilities are brought together within the team (Brettel et al., 2018; Salvato & Vassolo, 2018).

By developing a grounded process model, we illustrate that the dynamic managerial capabilities of individual top managers are brought together by the means of purposeful friction. That is, the process in which top management purposefully creates friction between the cognitive interpretations of individuals in order to shape and enhance the collective interpretations of the team. We identify purposeful friction as an interpersonal mechanism that allows the top management team to move beyond the cognitive limitations of individuals, leading to better sensemaking as a team. This insight extends current literature by unraveling the interpersonal mechanism that allows top management teams to combine the dynamic managerial capabilities of their individual top managers (Brettel et al., 2018; Salvato & Vassolo, 2018). Furthermore, our findings show that the fact that the TMT members embrace friction allows them to move beyond opposing believes of individuals and combine their perspectives in order to seize the identified opportunities. Hence, we contribute to research on dynamic capabilities by showing that embracing friction can bridge the gap between dynamic managerial sensing and seizing capabilities (Roberts & Grover, 2012; Schilke et al., 2018).

6.1.2 Conclusion Study 2

The research question of the second study was: What are the managerial and organizational capabilities that enable sustained high growth and *how* are they created and enacted over time? To answer this question, we conducted an in-depth case study of Takeaway, the most successful scale-up in the Netherlands and one of the leading food order and delivery platforms worldwide.

This study was performed to better understand how high-growth firms are able to achieve and sustain high growth over prolonged periods of time (Demir et al., 2017; Wright & Stigliani, 2013).

We find that strategic leaders within an HGF take deliberate actions to identify and prioritize key growth driving routines, a managerial capability we refer to as capturing the high-growth logic. We find that top management dynamically assembles the high-growth logic into organizational capabilities to ensure a continued match with the external and internal contingencies the firm faces during growth. These organizational capabilities involve *pooling resources*, *focused interventions* by senior management, and *controlled empowerment* of employees with the aim to continuously sustain and even increase high growth rates over time. These insights move beyond earlier research that has addressed rather generic capabilities for high growth (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009). Our findings suggest that HGFs (pro)actively address rapid scaling challenges through building and revising *specific* capabilities for sustained high growth. They do so by consciously reflecting on their existing constellation of organizational routines and capabilities, and by creating opportunities to develop new ones as needed, thus breaking away from inertial loops and remaining nimble and flexible to fundamentally change their course of action as needed. Our resulting model also illustrates how HGFs modify, reconfigure, and improve their established capabilities (pooling resources, focused intervention, and controlled empowerment) through continuously relying on a managerial capability, which we refer to as *reinforcing complementarities*. It captures the top management team's capacity to identify complementarities among the high-growth routines that they have at a given time, and to orchestrate their joint execution in ways that enable a faster response to any challenges, greater learning and overall process efficiency. This insight complements prior research by providing insights about the specific way HGFs modify and develop their capabilities in order to sustain high growth over time (Dibella et al., 1996; Zollo & Winter, 2002).

6.1.3 Conclusion Study 3

The third study in the dissertation addressed the question: How do high-growth firms design scalable business models that enable them to create and capture value over prolonged periods of high growth? We carried out a multiple-case study within three of the most successful scale-ups in the Netherlands. By building on the business model literature, we aimed at identifying the key characteristics of their scalable business model designs (Jansen et al., 2020).

Our findings suggest that scalable business models are characterized by their *Digitalized Activities* (content), *Reinforcing Network Effects* (structure), and *Integrated Control* (governance). The digital nature of the value creating and capturing processes is an important source of their scalability as it increases both efficiency and effectiveness. The *reinforcing network effects* imply that scalable business models are architected in such a way that there is a reinforcing interdependence between various stakeholders and product/service groups on different sides of the business model, leading to an upward spiral of growth. Finally, we find that in order to manage this scalable business model successfully and reinforce the upward spiral of growth, the scalable business models are characterized by a strong *integrated control* which implies that the strategic activities are internally managed by the focal firm. Moreover, our findings show how the most successful HGFs architect these elements to ensure long term scalability. Our findings contribute to prior research in at least two ways. First, we provide a more dynamic perspective on business model design themes by identifying business model design characteristics for scalable business models (Zott & Amit, 2010). Second, we provide a more dynamic perspective on high growth by illuminating the strategic characteristics of HGFs that allow them to create and capture value over prolonged periods of rapid scaling (Rindova et al., 2012; Senderovitz et al., 2016).

6.2 GENERAL CONTRIBUTIONS

6.2.1 Contributions to the literature

The results of the empirical studies have several implications for the literature which have been extensively discussed within the respective chapters and outlined in the conclusions of this chapter. As the discussions in the empirical studies indicate, our findings have implications beyond the ‘Dynamic Capabilities’, ‘Business Models’ and ‘High-Growth’ literatures. However, since these concepts constitute the main focus of this dissertation, in this chapter, we will specifically highlight how the findings contribute to these three literatures.

6.2.1.1 Contributions to the dynamic capabilities literature

The dynamic capabilities literature has branched into various hierarchical levels (Schilke et al., 2018). At the highest level there are the higher-order dynamic capabilities which have developed into a sub-field of dynamic managerial capabilities (Adner & Helfat, 2003; Teece, 2018b). Our first study contributes to this part of the literature by opening the black box of how the interaction of dynamic managerial capabilities of individuals in the TMT affects team decision making with regard to strategic change (Helfat & Peteraf, 2015). By illuminating how top managers can purposefully create cognitive friction between the perceptions of individuals and identify ways they overcome this in order to increase team-based sensemaking, we contribute to prior literature by opening the black box of how interpersonal interactions contribute to team-based dynamic capabilities (Brettel et al., 2018; Salvato & Vassolo, 2018). Our findings address the recent call for further research that “there are many multilevel and cross-level issues to address. For example, the concept of dynamic managerial capabilities applies not only to individual managers but also to teams of managers” (Helfat & Martin, 2015: 1305).

Besides hierarchical levels, the procedural levels of sensing, seizing and transforming have been identified in the dynamic capabilities literature (Teece, 2007). While the different procedural levels are well-established in the literature, prior research has remained silent on how managers are able to move from identifying opportunities for the firm (sensing) to capitalizing on these opportunities (seizing) (Roberts & Grover, 2012; Schilke et al., 2018). Our first study contributes to this gap in the literature by showing how top managers were able to move from the identification of an opportunity by an individual top manager to collaborative team-level decision making by the means of purposeful friction. Our findings are a first step in understanding the bridge between the various procedural levels of dynamic capabilities.

The current state of the dynamic capabilities literature also indicates that the development of dynamic capabilities is either examined in new ventures or in more mature firms (Autio et al., 2011). Our second study expands this by analyzing the dynamic development and adaptation of dynamic capabilities in a scale-up firm, which places as a company in-between new ventures and mature firms. By introducing reinforcing complementarities as a managerial capability that enables scale-ups to constantly 'update' their organizational capabilities to adapt to the changing circumstances, we provide valuable insights into the dynamic development of dynamic capabilities (Danneels, 2011; Eggers & Kaplan, 2013). Furthermore, by introducing specific dynamic capabilities for high growth, we enhance our understanding of the dynamic capability framework by expanding its applicability to new important organizational contexts.

6.2.1.2 Contributions to the business model literature

The business model has developed into an important theoretical concept to explain how a firm does business by creating and capturing value (Massa et al., 2017). The findings of our first study reaffirm the findings of prior studies that dynamic managerial capabilities and business models are interrelated concepts (Cosenz & Noto, 2018; Frankenberger & Sauer, 2019; Mezger, 2014; Teece, 2018b).

In our third study, we contribute to the literature on business model design themes (Amit & Zott, 2015; Gerdoçi et al., 2018). Prior research used to 'label' the entire activity system into different design themes and hence provided a rather generic and static view on business model designs (Zott & Amit, 2010). Our study moves beyond this generic perspective by zooming in to the core elements and identifying how each core element (content, structure, and governance) is characterized in scalable business models designs. Moreover, we provide a more dynamic view of business model designs as we consider how the core elements are configured to facilitate long-term value creation and capture and move beyond current insights that took a rather static 'one-moment in time' perspective (Amit & Zott, 2001; Hock et al., 2016).

Furthermore, scholars have argued that scalability is an important source of 'winning' business models (Casadesus-Masanell & Ricart, 2011). Yet, there is no congruence on what scalable business models actually are and how firms can achieve business model scalability (Nielsen & Lund, 2018; Zhang et al., 2015). Our study addresses this research gap in several ways. First, by building on the system literature, we update the definition of scalable business models. Our updated definition provides more clarity in the literature which facilitates scholars in future research. Second, we provide a first empirical contribution and identify the key characteristics of the scalable business models of Netherlands' most successful high-growth firms (Jansen et al., 2020). By doing this, we provide much needed grounded insights into this important phenomenon and enhance our understanding of the characteristics of scalable business models.

6.2.1.3 Contributions to the high growth literature

Studies have shown that high-growth firms are important for economic growth and prosperity of entire countries and regions (Lopez-Garcia & Puente, 2012). In the field of management, current literature has applied mainly quantitative research approaches and have therefore offered rather static insights into these firms (Barbero et al., 2011). Both the second and third study aim to move beyond this static approach and to provide a more dynamic view on high growth. In our second study, we contribute to the literature on high-growth firms by providing a process model that captures dynamically *how* high growth can be sustained over time, which can serve as a valuable blueprint for fast-scaling organizations. By highlighting high-growth specific capabilities, we open the black box of how HGFs deal with the challenges of rapid scaling over time.

Scholars have argued that scalability, which broadly refers to the ability to obtain and sustain profitable growth (Picken, 2017), is a specific characteristic of HGFs that set them apart from other growing organizations (DeSantola & Gulati, 2017). Yet, academic research in the field of business and management has barely touched upon this topic. Our third study extends our understanding of scalability in HGFs by revealing the configurations of scalable business models. Our findings provide important insights into how managers of HGFs design and refine scalable business models to enable value creation and capture over prolonged periods of high growth.

6.2.2 Managerial implications

The findings in this dissertation also have important implications for managerial practice. On the one hand, the findings of the empirical studies provide insights into how managers of HGFs deal with the internal and external challenges of rapid growth. On the other hand, this dissertation provides insights into how managers deliberately innovate their firm's business model to protect the competitive position of their firm when it is challenged by fast growing competitors.

Our first study provides new insights into how top managers bring together the perceptions of the individual top managers within the team in order to make better business model innovation decisions. Our process model suggests that managers should create a situation in which cognitive friction is embraced. Namely, purposeful cognitive friction may be a fruitful process for better business model innovation choices. For the successful implementation of the interpersonal mechanism purposeful friction, our findings suggest that top managers should compose triadic top management teams with managers with diverse backgrounds and functional responsibilities, and equally distribute the decision power among these managers. Moreover, our findings suggest that top managers should explicitly define core values because it stimulates the top management team members to work towards the long-term goals of the organization, even though the individual managers might have different interpretations about how to achieve these goals. Finally, our findings may help top managers to be closely involved in experimentation as we show how this could contribute to quickly detect opportunities and to shape BMI in line with the overarching company goals.

The second study provides important insights for managers about how to achieve and sustain high growth over prolonged periods of times. Our findings suggest that strategic leaders within scale-up companies should take deliberate actions to identify the growth logic of their organizations. Capturing the growth logic is important for managers because it channels their attention to the activities that further enhance the growth of their organizations. Managers should closely intervene in these activities because it allows them to not only align the organization with the growth logic, it also allows them to develop the organizational capabilities that allow for the operationalization thereof. What is more, our findings highlight that managers of HGFs should assemble their dynamic capabilities in such a way that there are complementarities between their organizational capabilities. That is, reinforcing effects between capabilities that exceed the outcome of the sum of parts. By developing high growth specific capabilities and assembling complementarities between them, managers are able to further stimulate and enhance the growth logic of the organization. As such, managers of HGFs are able to achieve and sustain fast growth by having a strong emphasis on the high growth logic and aligning their organizations towards stimulating this logic.

The third and last study of this dissertation provides insights into how managers can design their business models to ensure scalability over time. Our findings suggest that managers should digitalize the activities in the business model and create reinforcing network effects between them. Our findings also indicate that managers should create a strong integrated control over the activities in the system and take a centralized position within it. This allows them to oversee the bigger picture, make fast decisions, and make decisions to stimulate the network effects. By doing this, managers are able to make decisions that ensure long-term scalability and profits over mitigating short-term losses. Moreover, our findings suggest that managers should make investment decisions focusing on stimulating the network effects and prioritize this over short term profits in independent and isolated branches of their organizations.

6.3 LIMITATIONS AND FUTURE RESEARCH LINES

The studies in this dissertation have addressed important gaps in the literature and answered recent calls for further research. However, each study has certain limitations that one should be aware of and which provide rich avenues for future research. In our first study, a limitation is that we built our insights on a single-case study of a family firm with a relative limited number of interviews. Although we have been able to talk to the key decision makers in the organization and form a complete understanding of the top management team interaction, future research could benefit from either ethnographic longitudinal research to further zoom in to the process in-depth, or a multiple-case study approach to see how the process evolves in other organizations, also nonfamily firms.

In our second study, a similar limitation is present. We conducted an in-depth single case study in a revelatory case of sustained high growth. Although our model provides higher conceptual insights, firm specific characteristics such as the industry they operate in, their technological nature, and the fact that they were not backed by venture capital in the first five years of their growth trajectory, might introduce case-specific idiosyncrasies important for the results. We encourage future research to explore the extension and boundary conditions of our model (Smith & Besharov, 2019). A rich avenue for future research is to explore the applicability of the resulting model to other settings. Would mature, stable incumbents that are not growing or start-ups which experience more modest growth rates also benefit from the model? These are interesting questions for future research.

In the final study, we studied three cases of successful HGFs. Good practice in the 'Eisenhardt method' is to use at least four cases and include 'similar yet distinct' cases to capture the variance between them (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Even though we collected a broad number of interviews and other studies have preceded us in using less than four cases (e.g. Björkdahl, 2009; Lerch & Gotsch, 2015), the limited number of cases is a limitation of the study. Future research would benefit from multiple-case studies including more cases. Another limitation in our study is that we only studied highly successful cases and did not compare them with less successful ones. Comparing the characteristics of the scalable business models of successful HGFs with firms that were not able to sustain their rapid growth is an important avenue for future research.

Overall, we believe the studies in this dissertation address important phenomena about which our understanding is limited. We hope the empirical insights extend our understanding of these phenomena and contribute to the important, yet complex challenges of sustaining high growth and protecting oneself against fast growing competitors.

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Resumen (Summary in Spanish)

INTRODUCCIÓN GENERAL AL TEMA DE INVESTIGACIÓN

El entorno empresarial actual se caracteriza por su alto dinamismo causado por la disrupción tecnológica y digital y el crecimiento disruptivo de modelos de negocios innovadores (Teece, 2018b). Las empresas que innovan el modelo de negocio pueden crecer rápidamente y presionar mucho a las empresas establecidas (Kim & Min, 2015). Un ejemplo bien conocido es Netflix, que cambió su modelo de negocio de entrega de DVD a una plataforma de transmisión online y, al hacerlo, cambió el estado del arte en la industria del alquiler de películas (Snihur & Zott, 2019). Blockbuster, la empresa más grande de la industria en ese momento, que operaba con tiendas físicas de alquiler de películas, no logró ajustar su modelo de negocio a las nuevas circunstancias y solo unos años después se declaró en bancarrota (Ahuja & Novelli, 2016). Polaroid (Tripsas & Gavetti, 2000) y Nokia (Vuori & Huy, 2016), enfrentaron los mismos desafíos, las dos empresas con mejores resultados en sus industrias perdieron la batalla debido a su incapacidad para adaptarse al cambio del entorno. Estos casos ejemplifican dos tendencias importantes en el entorno empresarial actual. Por un lado, las empresas que pueden diseñar modelos de negocio innovadores que les permiten alcanzar y mantener un alto crecimiento pueden capturar rápidamente una parte importante del mercado en el que operan (Markides, 2008). Por otro lado, las empresas establecidas enfrentan el desafío de ajustar sus modelos de negocio para proteger su posición competitiva en el actual entorno empresarial del cambio constante (Saebi, Lien, & Foss, 2017).

Por qué algunas empresas saben adaptarse continuamente a las circunstancias cambiantes mientras que otras no lo consiguen es una pregunta que los académicos han tratado de responder durante años. La perspectiva de las capacidades dinámica tiene como objetivo responder a esta pregunta. En los últimos veinte años, los académicos han adoptado las capacidades dinámicas como una capacidad importante de las organizaciones para poder extender y modificar su base de recursos y capacidades a las circunstancias cambiantes (Barreto, 2010; Eisenhardt & Martin, 2000; Helfat et al., 2007; Helfat & Peteraf, 2009; Helfat & Winter, 2011; Schilke, Hu, & Helfat, 2018; Teece, 2007; Teece, Pisano, & Shuen, 1997).

En los primeros estudios, el enfoque de las capacidades dinámicas se ha centrado particularmente en los procesos organizativos que permiten a las empresas alterar la forma en que hacen los negocios (Eisenhardt & Martin, 2000; Teece et al., 1997). Sin embargo, dado que los directivos son los agentes clave de la adaptación y el cambio, y los procesos organizativos reflejan las creencias e ideas de ellos (Zahra, Sapienza, & Davidsson, 2006), se ha argumentado cada vez más que esas capacidades deben ser utilizadas adecuadamente por la alta dirección para poder ser efectivos (Eggers & Kaplan, 2013). Debido a que los académicos han destacado cada vez más el papel de la alta dirección en la orientación de las capacidades dinámicas, la literatura se ha ramificado en un subcampo de capacidades directivas dinámicas (CDD) (Helfat & Martin, 2015; Teece, 2018a). Las capacidades directivas dinámicas son las capacidades con las cuales los directivos crean, extienden y modifican los recursos y competencias organizacionales (Adner & Helfat, 2003, p. 1012; Helfat & Martin, 2015).

Teece (2018) argumenta que la capacidad de diseñar e implementar la innovación del modelo de negocio es una característica importante de las CDD. En el entorno actual que cambia rápidamente, argumenta él, podría ser incluso la característica más importante de las CDD (Teece, 2018a). Los estudios han demostrado que las empresas que innovan su modelo de negocio, es decir, las empresas que realizan cambios diseñados, novedosos y no triviales en la forma en que crean y capturan valor, tienden a superar a sus competidores en casi todas las industrias (Zott & Amit, 2007). Sin embargo, la innovación del modelo de negocio (IMN) es una tarea muy compleja para los directivos (Snihur & Zott, 2019). Aunque algunos gerentes hayan diseñado un IMN exitoso en respuesta a las circunstancias cambiantes, muchos otros han experimentado grandes dificultades y no han podido realizar el proceso de IMN con éxito (Chesbrough & Rosenbloom, 2002; Tripsas & Gavetti, 2000). El mayor número de estudios sobre la relación entre CDD y IMN indica que las CDD del equipo directivo son de crucial importancia para la innovación exitosa del modelo de negocio (Foss & Saebi, 2017;

Frankenberger & Sauer, 2019; Helfat & Martin, 2015; Martins, Rindova, & Greenbaum, 2015; Schneider & Spieth, 2013).

La investigación sobre capacidades dinámicas se ha centrado principalmente en el desarrollo de capacidades dinámicas en nuevas empresas o en empresas más maduras (Autio, George, & Alexy, 2011). Sin embargo, también proporciona una teoría importante para estudiar cómo las empresas de alto crecimiento (EAC) logran adaptarse continuamente a las circunstancias cambiantes. Las EAC, a las que se refieren muchas veces como Scale-Ups, se definen como organizaciones con al menos el 20% de la tasa de crecimiento anual en términos de ingresos y/o empleados durante un período de tres años, y con al menos 10 empleados en el año base (OECD, 2007). Mientras el tamaño aumenta rápidamente, los entornos internos de las EAC 'sufren' cambios drásticos que afectan a su gestión, están sometidas a un cambio continuo y rápido, que muchas veces resulta en la inadecuación de las prácticas y estructuras existentes (Nicholls-Nixon, 2005). Además, el rápido crecimiento genera desafíos importantes para las habilidades (directivas), las prácticas y estructuras organizativas y las necesidades de recursos (humanos) (Hambrick & Crozier, 1985; Lee, 2014). Aunque estos estudios proporcionan información valiosa sobre los desafíos que enfrentan los EAC, existe una escasez de estudios que aborden cómo estas empresas logran superar estos desafíos directivos. Esto significa que nuestra comprensión actual sobre los fundamentos y procesos que subyacen el alto crecimiento sostenido, se queda limitada (Demir, Wennberg, & McKelvie, 2017; Wright & Stigliani, 2013).

Como solo un porcentaje pequeño de empresas puede superar los desafíos del alto crecimiento y, por lo tanto, mantener un alto crecimiento durante períodos prolongados de tiempo (Mom, 2019), los académicos han comenzado a mostrar interés en las características estratégicas de tales organizaciones (Demir et al., 2017; Jansen et al., 2020). Se ha argumentado que la escalabilidad, que en general se refiere a la capacidad de obtener y mantener un crecimiento rentable (Picken, 2017), es una característica específica de las EAC que las distingue de otras organizaciones crecientes (DeSantola & Gulati, 2017). Las empresas que consiguen diseñar e implementar modelos de negocio escalables podrían lograr sostener un alto crecimiento a lo largo del tiempo (Zhang, Lichtenstein, & Gander, 2015). Sin embargo, faltan estudios que explican cómo son los modelos de negocio escalables y *cómo* las empresas configuran sus modelos de negocio para que sean escalables (Jansen et al., 2020).

En resumen, los estudios han demostrado que en el entorno empresarial actual, que está en constante cambio, o las empresas logran un alto crecimiento o su posición competitiva se ve desafiada por los competidores que lo hacen. Por un lado, las empresas que logran un alto crecimiento enfrentan desafíos directivos como diseñar modelos de negocios escalables y ajustar sus prácticas organizacionales a las circunstancias cambiantes. Por otro lado, las empresas que se enfrentan a competidores de alto crecimiento también enfrentan el desafío de innovar su modelo de negocio para proteger su posición competitiva. De cualquier manera, las empresas deben confiar en sus capacidades dinámicas, guiadas por el equipo directivo, para abordar esos desafíos. A pesar de la importancia, sigue habiendo lagunas significativas en nuestra comprensión de cómo las empresas consiguen esto.

Primero, sabemos que las empresas establecidas confían en las capacidades directivas dinámicas de su equipo directivo en el proceso de innovación de sus modelos de negocios (Frankenberger & Sauer, 2019; Teece, 2018a). Sin embargo, sigue habiendo una brecha importante en nuestra comprensión de cómo se combinan estas CDD de nivel individual dentro de un equipo directivo en este proceso de innovación del modelo de negocio (Brettel, Flatten, Bendig, da Costa, & Strese, 2018; Salvato & Vassolo, 2018). Este es una omisión importante porque comprender cómo las empresas perciben y aprovechan las oportunidades requiere examinar los mecanismos interpersonales que permiten a los equipos directivos combinar los CDD individuales dentro del equipo y tener un consenso colectivo (Eggers & Kaplan, 2013; Salvato & Vassolo, 2018).

En segundo lugar, los estudios han demostrado que, aunque solo un pequeño porcentaje de empresas logra hacerlo, es posible lograr y mantener un alto crecimiento. Sin embargo, la literatura actual nos dice poco sobre cómo las EAC enfrentan los desafíos de la adaptación constante a las circunstancias cambiantes que vienen con el alto crecimiento (Demir et al., 2017; Wright & Stigliani, 2013). Esta es una omisión crucial porque una comprensión profunda de las EAC requiere examinar los patrones dinámicos mediante los cuales evoluciona el alto crecimiento, y las capacidades específicas requeridas para adaptarse a las contingencias internas y externas a lo largo del tiempo (Helfat & Peteraf, 2003; Simsek, 2009).

Tercero, los académicos han argumentado que diseñar modelos de negocio escalables es lo que distingue las empresas de alto crecimiento de otras organizaciones (DeSantola & Gulati, 2017; Zhang et al., 2015). Sin embargo, la literatura existente no explica cómo las EAC deben diseñar sus actividades de creación y captura de valor para facilitar y gestionar el alto crecimiento a lo largo del tiempo (Mom, 2019; Simsek, Heavey, & Fox, 2017). Esto es una omisión importante porque una comprensión profunda tanto de la escalabilidad del modelo de negocio como de las EAC requiere una comprensión profunda de las características clave de sus modelos de negocio (Jansen et al., 2020). Como tal, existe una necesidad clara de obtener información sobre cómo las EAC configuran los elementos de su modelo de negocio para garantizar la escalabilidad a largo plazo.

En resumen, mientras que la literatura actual ha proporcionado importantes conocimientos sobre los fenómenos, esta tesis se basa en la noción de que aún queda mucho por aprender sobre cómo las organizaciones manejan los cambios internos y externos cuando crecen rápidamente, o como se protegen de los competidores que lo hacen.

RESUMEN DE LOS ESTUDIOS DE LA TESIS

Con el fin de fortalecer y desarrollar nuestra comprensión de cómo las organizaciones enfrentan estos desafíos, en esta tesis doctoral realizo tres estudios empíricos que tratan cada una de las omisiones identificadas en la literatura. En base a las oportunidades identificadas para futuras líneas de investigación, se han desarrollado tres preguntas de investigación que juntas intentan mejorar nuestra comprensión de los fenómenos:

1) ¿Cómo se combinan las capacidades dinámicas directivas de los individuos en el equipo directivo en el proceso de innovación del modelo de negocio?
2) ¿Cómo manejan las empresas de alto crecimiento lograr y mantener un alto crecimiento durante períodos prolongados de tiempo al tiempo que abordan los desafíos de la adaptación constante que conlleva el rápido crecimiento?

3) ¿Cómo diseñan las empresas de alto crecimiento modelos de negocios escalables que les permitan crear y captar valor durante períodos prolongados de alto crecimiento?

Cada pregunta tiene como objetivo resolver una parte diferente del puzle al que intentamos contribuir a lo largo de esta tesis y, por lo tanto, tiene diferentes objetivos y métodos. Por lo tanto, cada estudio proporciona diferentes contribuciones a los fenómenos.

Resumen estudio 1

Objetivos estudio 1

El primer estudio tiene dos objetivos principales. Primero y más importante, mi objetivo es extender la investigación previa sobre las capacidades directivas dinámicas desentrañando los mecanismos interpersonales que permiten a los directivos combinar las CDD de los directivos individuales dentro del equipo directivo (Brettel et al., 2018; Salvato & Vassolo, 2018). El segundo objetivo del primer estudio es cerrar la brecha entre las capacidades de 'sensing' y 'seizing', un vinculo importante para el despliegue exitoso de capacidades dinámicas en el cual la investigación previa no se ha enfocado (Roberts & Grover, 2012; Schilke et al., 2018).

Metodología estudio 1

Para responder a la pregunta de cómo las capacidades directivas dinámicas de los altos directivos individuales se combinan dentro del equipo, en el primer estudio adopté un diseño de estudio de caso único. La construcción inductiva de teoría me permitió capturar la naturaleza longitudinal y procesal de este proceso (Langley, 1999; Yin, 2014).

Llevé a cabo mi estudio en el comercio de moda más grande de los Países Bajos, al que nos referimos como *Ropa*, ya que creo que es un contexto revelador y ejemplar que nos permite obtener resultados que no se podrían obtener en casos más típicos (Eisenhardt & Graebner, 2007; Sigglekow, 2007). Enfoqué el análisis específicamente en el proceso en el que *Ropa* innovaba su modelo de negocio al agregar un modelo de negocio online a su modelo de negocio físico.

Mi principal fuente de información fueron las entrevistas con los miembros del equipo directivo de *Ropa* que se realizaron en tres rondas formales de recogida de datos. En total, realicé nueve entrevistas con los miembros del equipo directivo de *Ropa* y triangulé mis hallazgos analizando 246 documentos de datos de archivo. Siguiendo la metodología de Gioia (Corley & Gioia, 2004; Langley & Abdallah, 2011) primero codifiqué las entrevistas para desarrollar códigos de primer orden. Luego, al usar el método de comparación constante (Strauss & Corbin, 1998), agrupé los códigos de primer orden en temas de segundo orden para llevar los datos a un nivel más conceptual. Después de eso, agrupé los temas de segundo orden en dimensiones agregadas y creé una estructura de datos (Gioia, Corley, & Hamilton, 2012). Finalmente, empíricamente desarrollé un modelo de proceso que explica cómo las capacidades directivas dinámicas se combinan en el proceso de innovación del modelo de negocio.

Conclusiones estudio 1

Identificamos la *fricción intencional* como un mecanismo interpersonal que permite que el equipo directivo vaya más allá de las limitaciones cognitivas de los individuos, lo que lleva a una mejor creación de sentido o capacidad de percepción como equipo. Esta visión amplía la literatura actual al desentrañar el mecanismo interpersonal que permite a los equipos directivos combinar las capacidades directivas dinámicas de sus directivos individuales (Brettel et al., 2018; Salvato & Vassolo, 2018). Además, nuestros hallazgos muestran que el hecho de que los miembros del equipo directivo perciben la fricción como algo positivo les permite ir más allá de las percepciones opuestas de los individuos y combinar sus perspectivas para aprovechar las oportunidades identificadas. Por lo tanto, contribuimos a la investigación sobre capacidades dinámicas al mostrar que la percepción positiva de la fricción puede cerrar la brecha entre las capacidades dinámicas de ‘sensing’ y ‘seizing’ (Roberts & Grover, 2012; Schilke et al., 2018).

Resumen estudio 2

Objetivos estudio 2

El objetivo principal del segundo estudio es ir más allá de las ideas estáticas sobre el inicio y el logro de alto crecimiento (Barbero, Casillas, & Feldman, 2011; Chan, Bhargava, & Street, 2006; Stam & Wennberg, 2009) e ilustrar cómo las empresas de alto crecimiento mantienen dinámicamente su escalamiento durante períodos prolongados de tiempo. Para lograr esto, se han formulado dos objetivos concretos. Primero, mi objetivo es identificar las capacidades dinámicas que permiten a las EAC mantener un rápido crecimiento a lo largo del tiempo e ilustrar cómo estas capacidades contribuyen a superar los desafíos de ello. El segundo objetivo es iluminar cómo las EAC mejoran y desarrollan sus capacidades dinámicas con el tiempo (Ford & Friesl, 2019; Montealegre, 2003).

Metodología estudio 2

Para responder a la segunda pregunta de investigación, cómo las empresas de alto crecimiento pueden establecer y mantener un crecimiento rápido durante largos períodos de tiempo, también adoptamos un enfoque de estudio de un caso único (Gehman et al., 2018). El caso seleccionado en este estudio fue TakeAway, una de las compañías de distribución de comida para llevar a domicilio más grandes del mundo y la EAC más exitosa de Países Bajos. Hemos elegido específicamente centrarnos en TakeAway como un caso único para nuestro estudio, ya que representa un ejemplo prototípico de una empresa de alto crecimiento altamente exitoso (Eisenhardt & Graebner, 2007; Sigglekow, 2007).

Los datos se recogieron durante un período de 30 meses entre 2017 y 2019. En total, realizamos 30 entrevistas con el fundador/CEO y los miembros de los equipos directivos. Triangulamos nuestros hallazgos analizando 1.598 páginas de documentos de archivo. Similar a nuestro enfoque en el estudio 1, nos basamos en la metodología de Gioia para analizar nuestros datos. Seguimos las buenas prácticas de análisis de datos cualitativos (Corbin & Strauss, 2014; Miles & Huberman, 1994) y desarrollamos una estructura de datos al agrupar códigos de primer orden en temas de segundo orden y combinarlos en una dimensión agregada. Finalmente, desarrollamos un modelo de proceso fundamentado en los datos empíricos que ilustra cómo TakeAway pudo lograr y mantener un alto crecimiento durante un período prolongado de tiempo.

Conclusiones estudio 2

Descubrimos que los líderes estratégicos dentro de una EAC toman medidas deliberadas para identificar y priorizar las rutinas clave que impulsan el crecimiento, que ensamblan dinámicamente en capacidades que aseguran una coincidencia continua con las contingencias externas e internas que enfrenta la empresa durante el crecimiento. Estas capacidades organizacionales incluyen capturar la lógica de (alto) crecimiento de la empresa, unir recursos, intervenciones enfocadas por los directivos y el empoderamiento controlado de los empleados con el objetivo de mantener e incluso aumentar las altas tasas de crecimiento a lo largo del tiempo. Estas ideas van más allá de investigaciones anteriores que han abordado capacidades bastante generales para el alto crecimiento (Barbero et al., 2011; Chan et al., 2006; Stam & Wennberg, 2009). Nuestros resultados sugieren que las EAC abordan activamente los desafíos de crecer rápido mediante la creación y revisión de capacidades *específicas* para el alto crecimiento sostenido. Lo hacen reflexionando conscientemente sobre su constelación existente de rutinas y capacidades organizativas, y creando oportunidades para desarrollar nuevas según sea necesario, separándose así de los bucles inerciales y permaneciendo ágiles y flexibles para cambiar fundamentalmente su curso de acción según sea necesario. Nuestro modelo resultante también ilustra cómo las EAC modifican, reconfiguran y mejoran sus capacidades establecidas (capturar la lógica de (alto) crecimiento, unir recursos, intervención enfocada y empoderamiento controlado) al depender continuamente de una capacidad cognitiva, a la que nos referimos como *refuerzo de complementariedades*. Captura la capacidad del equipo directivo para identificar complementariedades entre las rutinas de alto crecimiento que tienen en un momento dado y para organizar su ejecución conjunta de manera que permita una respuesta más rápida a cualquier desafío, mayor aprendizaje y eficiencia general del proceso. Estos resultados complementan la investigación previa al proporcionar información sobre la forma específica en que los EAC modifican y desarrollan sus capacidades para mantener un alto crecimiento en el tiempo (Dibella, Nevis, & Gould, 1996; Zollo & Winter, 2002).

Resumen estudio 3

Objetivos estudio 3

El tercer estudio tiene un objetivo principal similar al estudio dos: proporcionar una perspectiva más dinámica del alto crecimiento. Para hacer esto, mi objetivo es identificar las características clave de los diseños de modelos de negocios escalables. Al acercarme a los elementos principales de los modelos de negocios de las EAC, mi objetivo es proporcionar una perspectiva más dinámica y una comprensión más profunda de cómo las características específicas de los elementos del modelo de negocio facilitan la escalabilidad (Zhang et al., 2015; Zott & Amit, 2010).

Metodología estudio 3

Mientras que los dos primeros estudios de esta tesis doctoral se basan en un estudio de caso único, el tercer y último se basa en un diseño de estudio de casos múltiple (Eisenhardt & Graebner, 2007). Para responder a la pregunta de cómo las empresas de alto crecimiento diseñan sus modelos de negocio para garantizar su escalabilidad a lo largo del tiempo, opto por un método de casos múltiples porque me permite seguir la lógica de replicación y probar las ideas emergentes dentro de cada caso adicional (Eisenhardt, 1989; Yin, 2014). Seleccioné tres de las EAC más exitosas en los Países Bajos con una historia comprobada de crecimiento sostenido, ya que creía que estas empresas proporcionarían información valiosa sobre las características de los diseños de modelos de negocios escalables.

La principal fuente de datos fueron entrevistas en profundidad con fundadores, directivos, y miembros de los equipos directivos. Se realizaron un total de 33 entrevistas y se analizaron 1.574 páginas de material de archivo para triangular los hallazgos. Pasé por un proceso iterativo de análisis de datos y recorrí recursivamente los datos de casos, la teoría emergente y la literatura existente para refinar las ideas teóricas (Eisenhardt & Graebner, 2007; Miles & Huberman, 1994). Al reflejar las hallazgos emergentes contra la teoría del modelo de negocio existente, pude agrupar los códigos empíricos en temas basados en la teoría relacionados con los elementos clave del modelo de negocio (Mantere & Ketokivi, 2013).

Conclusiones estudio 3

Nuestros resultados sugieren que los modelos de negocio escalables se caracterizan por sus *actividades digitalizadas* (contenido), *efectos de red* (estructura) y *control integrado* (gobernanza). La naturaleza digital de los procesos de creación y captura de valor es una fuente importante de su escalabilidad, ya que aumenta tanto la eficiencia como la efectividad. Los *efectos de red* implican que los modelos de negocio escalables están diseñados de tal manera que existe un vínculo de refuerzo entre los diversos grupos de interés y los grupos de productos/servicios en diferentes lados del modelo de negocio, lo que lleva a una espiral ascendente de crecimiento. Finalmente, encontramos que para gestionar este modelo de negocio escalable con éxito y reforzar la espiral ascendente de crecimiento, los modelos de negocio escalables se caracterizan por un fuerte control integrado que implica que las actividades estratégicas son gestionadas internamente por la empresa focal. Además, nuestros hallazgos muestran cómo las EAC más exitosas diseñan estos elementos para garantizar la escalabilidad a largo plazo. Nuestros hallazgos contribuyen a la investigación previa en al menos dos formas. Primero, brindamos una perspectiva más dinámica sobre los temas de diseño de modelos de negocios mediante la identificación de características de los elementos clave de modelos de negocios escalables (Zott & Amit, 2010). En segundo lugar, brindamos una perspectiva más dinámica sobre el alto crecimiento al iluminar las características estratégicas de las EAC que les permiten crear y captar valor durante períodos prolongados de rápido crecimiento (Rindova, Yeow, Martins, & Faraj, 2012; Senderovitz, Klyver, & Steffens, 2016).

CONTRIBUCIONES A LA LITERATURA

Los resultados de los estudios empíricos tienen varias implicaciones para la literatura de "Capacidades Dinámicas", "Modelos de Negocios" y "Empresas de Alto Crecimiento". En este capítulo, destacaré específicamente cómo mis hallazgos contribuyen a estas tres literaturas.

Contribuciones a la literatura de Capacidades Dinámicas

La literatura de capacidades dinámicas se ha ramificado en varios niveles jerárquicos (Schilke et al., 2018). En el nivel más alto están las capacidades dinámicas de orden superior que se han convertido en un subcampo de capacidades directivas dinámicas (Adner & Helfat, 2003; Teece, 2018). Nuestro primer estudio contribuye a esta parte de la literatura al abrir el 'black box' de cómo la interacción de las capacidades directivas dinámicas de los individuos en el equipo directivo afecta la toma de decisiones del equipo con respecto al cambio estratégico (Helfat & Peteraf, 2015). Al ilustrar cómo los altos directivos pueden crear a propósito fricciones cognitivas entre las percepciones de los individuos e identificar formas de superar esto para aumentar la creación de sentido basada en el equipo, contribuimos a la literatura previa al abrir el 'black box' de cómo las interacciones interpersonales contribuyen a las capacidades dinámicas del equipo (Brettel et al., 2018; Salvato & Vassolo, 2018). Nuestros hallazgos responden a recientes demandas de mayor investigación por parte de Helfat y Martin (2015), quienes afirman “hay muchos problemas multinivel y de niveles cruzados para abordar. Por ejemplo, el concepto de capacidades directivas dinámicas se aplica no solo a individuos sino también a equipos directivos” (Helfat & Martin, 2015, p. 1305).

Además de los niveles jerárquicos, los niveles de proceso de percibir (sensing), aprovechar (seizing) y transformar (reconfiguring) se han identificado en la literatura de capacidades dinámicas (Teece, 2007). Aunque los diferentes niveles de proceso están bien establecidos en la literatura, la investigación previa no ha hablado sobre cómo los directivos pueden pasar de identificar oportunidades para la empresa (percibir) a capitalizar estas oportunidades (aprovechar) (Roberts & Grover, 2012; Schilke et al., 2018). Nuestro primer estudio contribuye a esta brecha en la literatura al mostrar cómo los altos directivos pudieron pasar de la identificación de una oportunidad por parte de un individuo a la toma de decisiones colaborativa a nivel de equipo por medio de una fricción intencionada. Nuestros hallazgos son un primer paso para comprender el ‘puente’ entre los diversos niveles de proceso de las capacidades dinámicas.

El estado actual de la literatura de capacidades dinámicas indica que el desarrollo de capacidades dinámicas se examina en nuevas empresas o en empresas más maduras (Autio, George, & Alexy, 2011). Nuestro segundo estudio amplía esto al analizar el desarrollo dinámico y la adaptación de capacidades dinámicas en una empresa creciente. Al introducir el refuerzo de complementariedades como una capacidad cognitiva que permite a las empresas "actualizar" constantemente sus capacidades organizativas para adaptarse a las circunstancias cambiantes, proporcionamos información valiosa sobre el desarrollo dinámico de las capacidades dinámicas. Además, al introducir capacidades dinámicas *específicas* para el alto crecimiento, mejoramos aún más nuestra comprensión de las capacidades dinámicas al expandir su aplicabilidad a nuevos contextos organizativos importantes.

Contribuciones a la literatura de Modelos de Negocios

El modelo de negocio se ha convertido en un concepto teórico importante para explicar cómo una empresa crea y captura valor (Massa et al., 2017). Los hallazgos de nuestro primer estudio reafirman los resultados de estudios anteriores de que las capacidades directivas dinámicas y los modelos de negocios son conceptos interrelacionados (Cosenz & Noto, 2018; Frankenberger & Sauer, 2019; Mezger, 2014; Teece, 2018).

En nuestro tercer estudio, contribuimos a la literatura sobre temas de diseño de modelos de negocio (Amit & Zott, 2015; Gerdoçi, Bortoluzzi, & Dibra, 2018). La investigación previa solía "etiquetar" todo el sistema de actividades en diferentes temas de diseño y, por lo tanto, proporcionaba una visión bastante general y estática de los diseños de modelos de negocio (Zott & Amit, 2010). Nuestro estudio va más allá de esta perspectiva general al acercarse a los elementos centrales e identificar cómo cada elemento central (contenido, estructura y gobernanza) presenta unas determinadas características en el diseño de modelos de negocios escalables. Además, brindamos una visión más dinámica de los diseños de modelos de negocios al considerar cómo se configuran los elementos centrales para facilitar la creación y la captura de valor a largo plazo en tiempos de crecimiento rápido. Estos hallazgos van más allá de las ideas actuales que han tomado una perspectiva bastante estática de "un momento en el tiempo" (Amit & Zott, 2001; Hock, Clauss, & Schulz, 2016).

Además, los académicos han argumentado que la escalabilidad es una fuente importante de modelos de negocios 'ganadores' (Casadesus-Masanell & Ricart, 2011). Sin embargo, no hay congruencia sobre qué son realmente los modelos de negocio escalables y cómo las empresas logran la escalabilidad del modelo de negocio (Nielsen & Lund, 2018; Zhang, Lichtenstein, & Gander, 2015).

Nuestro estudio aborda esta omisión en varias maneras. Primero, al basarnos en la literatura del sistema, actualizamos la definición de modelos de negocios escalables. Nuestra definición actualizada proporciona más claridad en la literatura, facilitando la tarea futura a los investigadores. En segundo lugar, proporcionamos una primera contribución empírica e identificamos las características clave de los modelos de negocio escalables de las empresas de alto crecimiento más exitosas de los Países Bajos (Jansen et al., 2020). Al hacer esto, proporcionamos información fundamental muy necesaria sobre este importante fenómeno y mejoramos nuestra comprensión de las características de los modelos de negocio escalables.

Contribuciones a la literatura de alto crecimiento

Investigaciones han demostrado que las empresas de alto crecimiento son importantes para el crecimiento económico y la prosperidad de países y regiones enteras (Lopez-Garcia & Puente, 2012). En el área de management, la literatura actual ha aplicado principalmente enfoques de investigación cuantitativa y, por lo tanto, ha ofrecido ideas bastante estáticas sobre estas empresas (Barbero et al., 2011). Tanto el segundo como el tercer estudio tienen como objetivo ir más allá de este enfoque estático y proporcionar una visión más dinámica del alto crecimiento. En nuestro segundo estudio, contribuimos a la literatura sobre EAC al proporcionar un modelo de proceso que captura dinámicamente cómo se puede mantener el alto crecimiento a lo largo del tiempo, lo que puede servir como un plan valioso para las organizaciones que crecen rápidamente. Al destacar las capacidades específicas de alto crecimiento, abrimos el 'black box' de cómo las EAC enfrentan los desafíos de la rápida ampliación a lo largo del tiempo.

Los académicos han argumentado que la escalabilidad, que en general se refiere a la capacidad de obtener y mantener un crecimiento rentable (Picken, 2017), es una característica específica de las EAC que las distingue de otras organizaciones en crecimiento (DeSantola & Gulati, 2017). Sin embargo, la investigación académica en el área de la dirección de empresas casi no ha abordado este tema. Nuestro tercer estudio amplía nuestra comprensión de la escalabilidad en EAC al revelar las configuraciones de los modelos de negocio escalables. Nuestros hallazgos proporcionan información importante sobre cómo los directivos de EAC diseñan y refinan modelos de negocio escalables para permitir la creación y la captura de valor durante períodos prolongados de alto crecimiento.

Implicaciones prácticas

Los hallazgos en esta tesis también tienen implicaciones importantes para la práctica. Por un lado, esta tesis proporciona información sobre cómo los directivos de EAC enfrentan los desafíos internos y externos del rápido crecimiento. Por otro lado, los resultados de los estudios empíricos proporcionan información sobre cómo los directivos deliberadamente innovan los modelos de negocios de sus empresas para proteger las posiciones competitivas de sus empresas cuando son desafiados por competidores que crecen rápidamente. Nuestro primer estudio proporciona nuevos conocimientos sobre cómo los altos directivos reúnen las percepciones de los individuos dentro del equipo para tomar mejores decisiones de innovación del modelo de negocio. Nuestro modelo de proceso sugiere que los directivos deben crear una situación en la que aprecian la fricción cognitiva. Es decir, la intencional fricción cognitiva puede ser un proceso fructífero para mejores decisiones de innovación en el modelo de negocio. Para la implementación exitosa del mecanismo interpersonal de fricción intencional, nuestros hallazgos sugieren que los directivos deben componer equipos tríadicos con individuos con experiencia y responsabilidades funcionales diversas y distribuir equitativamente el poder de decisión entre estos directivos. Además, nuestros hallazgos sugieren que los directivos deben definir explícitamente los valores de la empresa, ya que estimula a los miembros del equipo directivo a trabajar hacia los objetivos a largo plazo de la organización, a pesar de que los individuos pueden tener diferentes interpretaciones sobre cómo lograr estos objetivos. Finalmente, nuestros hallazgos pueden ayudar a los directivos a participar estrechamente en la experimentación, ya que mostramos cómo esto podría contribuir a detectar rápidamente las oportunidades y dar forma al IMN de acuerdo con los objetivos generales de la empresa.

El segundo estudio proporciona información importante para los gerentes sobre cómo lograr y mantener el alto crecimiento durante períodos prolongados de tiempo. Nuestros hallazgos sugieren que los líderes estratégicos dentro de las EAC deben tomar acciones deliberadas para identificar la lógica de crecimiento de sus organizaciones. Capturar la lógica de crecimiento es importante para los gerentes porque canaliza su atención hacia las actividades que mejoran aún más el crecimiento de sus organizaciones.

Los directivos deben intervenir estrechamente en estas actividades porque les permite no solo alinear a la organización con la lógica de crecimiento, sino también aprender y desarrollar las capacidades organizacionales que permiten su operacionalización. Además, nuestros hallazgos muestran que los directivos de EAC deben reunir sus capacidades dinámicas de tal manera que haya complementariedades entre sus capacidades organizacionales. Es decir, reforzar los efectos entre capacidades que exceden el resultado de la suma de partes. Al desarrollar capacidades específicas de alto crecimiento y reunir complementariedades entre ellos, los directivos pueden estimular y mejorar aún más la lógica de crecimiento de la organización.

Como tal, los directivos de EAC pueden lograr y mantener un rápido crecimiento al hacer el énfasis en la lógica de alto crecimiento y alinear a sus organizaciones para estimular esta lógica.

El tercer y último estudio de esta tesis proporciona información sobre cómo los directivos pueden diseñar sus modelos de negocio para garantizar la escalabilidad en el tiempo. Nuestros hallazgos sugieren que los gerentes deberían digitalizar y crear efectos de red entre las diferentes actividades en el modelo de negocio. Nuestros hallazgos también indican que los directivos deberían crear un control integrado fuerte sobre las actividades en el sistema y tomar una posición central dentro de él. Esto les permite supervisar el panorama general, tomar decisiones rápidas y tomar decisiones para estimular los efectos de la red. Al hacer esto, los directivos pueden tomar decisiones para garantizar la escalabilidad y beneficios a largo plazo en lugar de limitar las pérdidas a corto plazo. Además, nuestros hallazgos sugieren que cuando los directivos crean efectos de red entre sus actividades de creación de valor, deben tomar decisiones de inversión enfocándose en estimular esos efectos y priorizar esto sobre los beneficios a corto plazo en sucursales independientes y aisladas de sus compañías.

LIMITACIONES Y FUTURAS LINEAS DE INVESTIGACIÓN

Los estudios en esta tesis han abordado brechas importantes en la literatura, respondiendo a un creciente interés por estos temas en el área. Sin embargo, cada estudio tiene ciertas limitaciones que debemos tener en cuenta y que proporcionan interesantes futuras líneas de investigación. En mi primer estudio, una limitación es que construimos nuestras ideas sobre un estudio de caso único de una empresa familiar con un número relativamente limitado de entrevistas. Aunque hemos podido hablar con los altos directivos que son clave en el proceso de toma de decisiones y hemos podido formar una visión completa de la interacción del equipo directivo, futura investigación podría beneficiarse de la investigación longitudinal etnográfica para ampliar aún más el proceso en profundidad. También podría beneficiarse de un enfoque de estudio de caso múltiple para ver cómo evoluciona el proceso en otras organizaciones, también en empresas no familiares.

En mi segundo estudio, se puede encontrar una limitación similar. Realizamos un estudio de caso único en profundidad en un caso especialmente revelador de alto crecimiento sostenido.

Las características específicas de la empresa, como la industria en la que operan, su naturaleza tecnológica y el hecho de que no estuvieron respaldadas por capital de riesgo en los primeros cinco años de su trayectoria de crecimiento, podrían influir los resultados. Aunque nuestro modelo proporciona una visión más conceptual, yendo más allá de las características específicas de la empresa, alentamos la investigación futura para explorar la replicación, la extensión y las condiciones que podrían limitar nuestro modelo (Smith & Besharov, 2019). Una línea de futura investigación interesante es explorar la aplicabilidad del modelo a otros entornos. ¿Podrían las empresas maduras y estables que no están creciendo, o las nuevas empresas con una tasa de crecimiento más modesta también beneficiarse del modelo? Estas son preguntas interesantes para futuras investigaciones.

En el último estudio, estudiamos tres casos de EAC exitosos. Una buena práctica en el 'Método de Eisenhardt' es utilizar al menos cuatro casos e incluir casos 'similares pero distintos' para captar la variación entre ellos (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Aunque recogimos una gran cantidad de entrevistas, y otros estudios me precedieron en el uso de menos de cuatro casos (p.e.. Björkdahl, 2009; Lerch & Gotsch, 2015), el número limitado de casos es una limitación del estudio. La investigación futura se beneficiaría de estudios de casos múltiples incluyendo más casos. Otra limitación en nuestro estudio es que solo estudiamos casos altamente exitosos y no los comparamos con los menos exitosos. La comparación de las características escalables del modelo de negocio de las EAC exitosas y las empresas que no pudieron mantener su rápido crecimiento es una línea importante para futuras investigaciones.

En general, creo que los estudios en esta tesis abordan fenómenos importantes de los cuales nuestra comprensión es limitada. Espero que las reflexiones teóricas y las ideas empíricas en esta tesis amplíen nuestra comprensión de estos fenómenos y contribuyan a los desafíos importantes, pero complejos, de sostener un alto crecimiento o protegerse de los competidores que lo consiguen.